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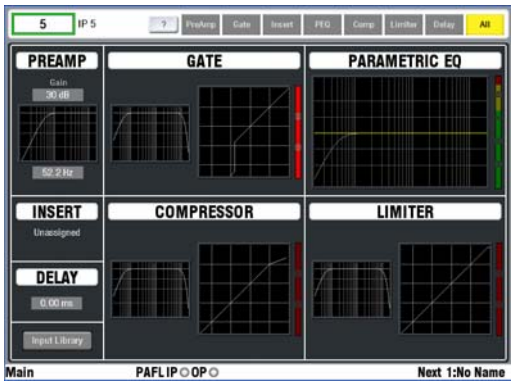
iLive digital



iLive Reference Guide

Part 2 – Firmware

Firmware Version 1.7

This guide describes the iLive system operating firmware and how to use its feature set. For information on connecting iLive hardware please refer to Part 1.

Publication AP6526-2

Welcome

Thank you for investing in the Allen & Heath **iLive** digital mixing system. To get the most from your iLive we recommend you read the whole of this guide. To get started quickly refer to the Getting Started guides that come with the iLive Surface and MixRack, and then to this guide for further reference.

This guide describes the iLive system operating firmware and how to use its feature set. For information on connecting iLive hardware please refer to Part 1.

Before starting please note:

Safety Instructions

Read the Important Safety Instructions printed on the sheet supplied with the equipment. For your own safety and that of the operator, technical crew and performers, follow all instructions and heed all warnings printed on the sheet and on the equipment panels.

System operating firmware

The feature set of the iLive is determined by the firmware (operating software) that runs it. Firmware is updated regularly as new features are added and improvements made, and is available for download from the Allen & Heath web site. This guide relates to **Version 1.7 firmware**. Some of the details shown in this guide may differ from those in the current release of firmware. Refer to the web site for the latest version and read the Release Notes that come with each version of firmware for further details.

Note: Make sure all your iLive MixRacks and Surfaces are running the same version of firmware, and that the Editor software running on your laptop is compatible.

Further information

For further information, refer to the **User Guides** associated with each system component, the **Getting Started Guides** AP7445 and AP7141, the **HELP MANUAL** available from the iLive Surface TouchScreen and within the Editor software, and the **Allen & Heath web site**. http://www.allen-heath.com

A **forum** for discussing the iLive product family with other iLive owners and users can be found at http://www.ilive-digital.com/forum/

IMPORTANT- Please read carefully

By using this Allen & Heath product and the software within it, you agree to be bound by the terms of the relevant **End User Licence Agreement** (EULA), a copy of which can be found on the Allen & Heath website in the product's pages. You agree to be bound by the terms of the EULA by installing, copying, or otherwise using the software.

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Introduction to iLive Firmware

iLive and the iLive-T Series provide a modular system for live sound mixing. Allowing distributed control and audio over CAT5 cable, iLive is well suited to demanding live sound applications such as FOH/Monitor mixing, live recording and multi-function installed venue sound. It is uniquely flexible with choice of components, a fully configurable bus architecture and assignable user interface for easy configuration to match each application.

iLive **firmware** is the operating code that tells the iLive hardware and its controls how to function. This code is regularly updated by Allen & Heath to provide new features and improvements without changing the hardware, a big advantage that digital systems offer. The firmware has a **Version number**:

V1.70 where:

1 = Major version, unlikely to change for this version of iLive hardware,

7 = Minor version, introducing new features / improvements for this version of iLive hardware,

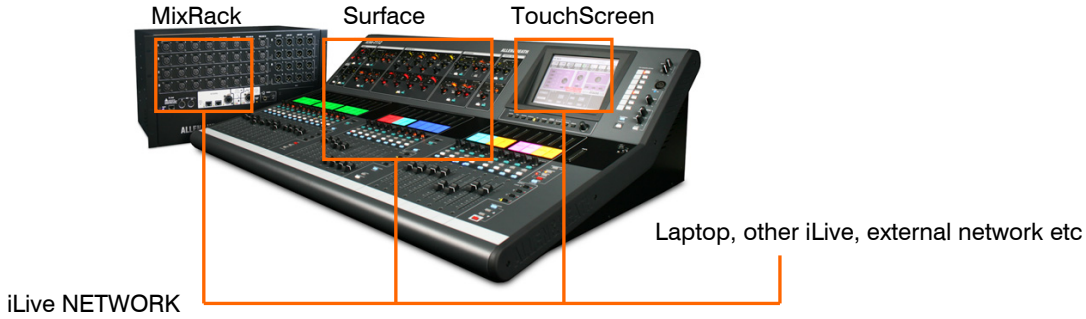
0 = Maintenance version, to fix known issues.

A stand alone iLive comprises a MixRack and a Surface. This has **three networked devices** that each need operating firmware loaded:

The **MixRack** – CPU module that manages the DSP mix engine, networking and system control,

The **Surface** – CPU module that manages the operation of the Surface controls,

The **TouchScreen** – A computer built into the Surface that manages the TouchScreen.



iLive firmware can be downloaded as a file from the Allen & Heath web site. It can then be loaded into the iLive system via USB key or from a laptop running Editor software and connected to the iLive network.

The same version of firmware must be loaded into the three parts of the iLive system. This is done automatically using the Surface **UTILITY / Firmware / Update Firmware** screen. If you connect a MixRack and a Surface which have different versions of firmware loaded you will be warned of a 'Firmware mismatch' and prompted to update the firmware. Refer to the firmware update instructions later in this guide.

iLive firmware and memory file format is compatible across all the iLive modular and fixed format MixRacks and Surfaces. This makes it very easy to mix and match iLive components, to share Show and Library files, and to keep your system up to date.

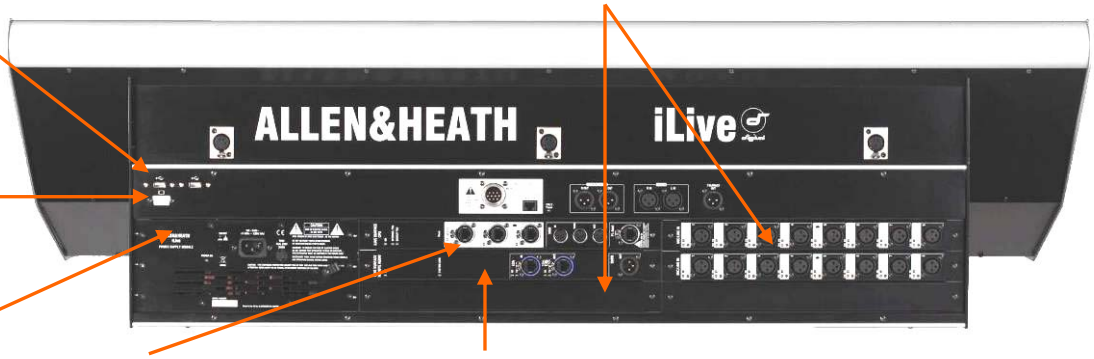
Note: Keep all you iLive components and laptops up to date with the latest version of iLive firmware and Editor software. Refer to www.allen-heath.com for the latest version.

Modular iLive controls and functions

USB ports
Two USB ports available in addition to the two under the armrest at the front. Use USB to:
- Transfer Show files
- Transfer Scenes
- Transfer Library files
- Transfer event logs
- Update firmware

VGA
Option to connect a monitor screen to the VGA output to duplicate the TouchScreen display.

Audio module options
4x card slots A, B, C and D to fit optional audio input and output modules. Any input socket can be routed to any iLive channel using the **PREAMP** screen. Any iLive signal can be routed to any output socket using the **ROUTING** screen. Sockets can be configured as Insert Send and Returns using the channel **SEL** **INSERT** screen.



Power supply
Internal power module and option to connect the iPS10 rack unit as backup. Power status and system temperature are monitored in **UTILITY**

CPU module
Manages the Surface system and provides remote control via Ethernet, MIDI and PL-Anet. The built-in Ethernet switch allows connection of several devices to the network, for example Surface and a laptop.

REMOTE AUDIO module
Provides the digital audio network interface to transport the Surface audio to/from the MixRack and other devices. Settings for the Port A and Port B digital audio networking option cards fitted can be found in the **MIXRACK SETUP** / **Mixer Pref** screen.

Channel processing block
Analogue style layout with dedicated rotary controls, switches and meters for the channel/mix preamp, HPF, gate, PEQ, compressor and limiter/de-esser. The controls are accessed using the strip SEL keys. Select the input channel, mix master or FX return.

TouchScreen
Used for status display, system setup and memory management. Also provides an alternative graphical view of the channel processing. The screen may be tilted and dimmed.

Soft keys
8x user assignable keys which can be programmed to a number of functions such as tap tempo, mute groups, mix select etc.

Control strip
Meter
Status LCD
Encoder
SEL key
PAFL
Mute
MIX key
Fader

Configure as
Input channel
FX return
FX send
Group
Aux
Main mix
Matrix
DCA master
PAFL master
(Wedge/IEM)

Talkback
Talk mic input and assignment.

Engineer's monitor
Headphones and local monitor.

Solo-in-place

PAFL controls

Scene keys
Can be disabled

Fader Banks

Copy, Paste, Reset

Freeze, Alt view, GEQ toggle

Headphones, USB

Layer A,B,C,D select per bank

Assign, Pre/Post, Rotary shift For current selected MIX

Fixed format iLive controls and functions

Channel Processing Strip Analogue style control section with dedicated rotary controls, switches and meters for the channel or mix preamp, HPF, gate, PEQ, compressor and limiter/de-esser. Press the strip **SEL** key to access the processing of the channel or master assigned to it. The controls illuminate when they are available.

TouchScreen For status display, system setup and memory management. To see an alternative graphical view of the processing for the channel or master currently selected make sure none of the keys below the screen is selected.

Soft Keys 8 user assignable keys

Dimmer

Talkback. Hold down TB ASSIGN and press the master **MIX** keys to assign.

Virtual write-on strip Name and colour

PAFL monitor and SIP

Copy/Paste/Reset edit keys

Fader Banks Independent groups of fader strips with 4 layers each. Provides control of the Input channel, FX return, Mix master or DCA assigned to it.

SEL opens the channel processing for the selected strip.

MIX presents the sends for the selected strip on faders (or encoders) and assignments and pre/post settings in the strip LCD windows.

ASSIGN and PRE/POST access keys for the selected mix.

Hold down ASSIGN and press strip **MIX** keys to toggle the assignments on or off.

Hold down PRE/POST and press strip **SEL** keys to toggle pre or post fade.

Hold down ROTARY SHIFT to access the second encoder function if it has one.

Hold down ALT VIEW to view the channel or socket numbers and additional rotary function in the LCD windows.

GEQ FADER FLIP to present the GEQ across the faders.

FREEZE IN LAYERS to keep a channel visible across all layers. Hold down and press strip **MIX** keys.

Scene recall keys. These can be disabled.

SCENE SAFES to prevent selected channels being overwritten by the memories. Hold down SAFES and press **MIX** keys to toggle on or off.

Lamp sockets

For future use…

VGA port for external monitor (same view as TouchScreen).

2x USB ports.

Plug in USB key here.

Local PAFL monitor output

Assignable local audio inputs and outputs.

Rows **A** and **C** are inputs, **B** and **D** are outputs.

Digital is SPDIF.

Audio/control link between Surface and MixRack.

ACE (audio and control over Ethernet) CAT5 cable up to 120m (400 feet)

Additional Ethernet ports for connecting laptops and wireless router.

MIDI in and out

The Status screen

The TouchScreen 'Status' screen is displayed when the fader strip **SEL** keys and the keys below the screen are all off. It is the default view when nothing is selected. It provides display of a real time clock, system status and access to the user assignable custom meters and the RTA display.

For normal operation green ticks should be present. A red cross means a problem has been detected and should be checked.

Help The top information bar of the screen shows a [?] key and touching this in any screen it is displayed on will take you to the relevant part of the onboard Help file to provide context sensitive information.

Firmware Displays the current firmware version loaded. A **green tick** means the system firmware is operating correctly. A **red cross** warns that an error has been detected and has been logged in the system Event Logs. A yellow triangle also displays in the lower toolbar to alert you if you are in another page. Go to the **UTILITY** / **Diagnostics** / **Event Logs** page to view the error. The Event Log can be copied to USB key to be reported to Allen & Heath if required. After viewing the error log the green tick is restored. For the latest version of iLive firmware please refer to the Allen & Heath web site.

Temperature The iLive monitors its temperature at several places within the MixRack, Surface and power supplies. If it exceeds a maximum threshold then a **red cross** displays to warn you. Go to the **UTILITY** / **Diagnostics** / **Temperature** page to view the current temperatures.

MixRack System Lock A **green tick** displays that the MixRack is sync locked to the selected audio clock source. If a **red cross** appears then check the Audio Clock Source setting in the **MIXRACK** / **Mixer Pref** / **Audio Sync Networks** page.

Port A, Port B These boxes display status information for the digital audio network options fitted, for example EtherSound or ACE. Detail on the status information for each network module type is provided with the module descriptions later in this guide.

Clock Displays the TouchScreen CPU real time clock. The time may be changed from the **UTILITY** / **Configuration** / **Date Time** page.

Current User The current User name is displayed here. To log in as a different user go to the **UTILITY** / **Change User** page. Up to 8 User Profiles may be set by the Administrator using the **UTILITY** / **Configuration** / **Edit User Profiles** page.

Last Show Recalled Displays the name of the last Show memory recalled. To recall a different show go to the **UTILITY** / **Configuration** / **Show Manager** page.

Lower Status bar

Current Mix The left of this toolbar always displays the active fader strip mix type and number as currently selected using the **MIX** keys. For example '**Input 9**' indicates that the input channel 9 **MIX** key is selected and the master strips display the assignments and sends from that input. '**Mono Aux 1**' indicates that the mono Aux 1 master strip **MIX** key is selected and the inputs strips display the assignments and levels to that master. Deselecting a **MIX** key returns the strips to the Main mix if one is configured. This is the recommended default mode for FOH mixing. '**Main**' displays on the toolbar to indicate you are in the default mix. If there is no main mix, for example a monitor mix configuration, then the left of the toolbar remains blank when the **MIX** key is deselected.

Current and Next Scene The right of the lower toolbar displays the name and number of the last Scene memory recalled during the session, and the name and number of the Scene currently highlighted in the SCENES page. The highlighted Scene is the next that would be recalled when you press the GO key to the right of the faders, for example for use as scene recall during a theatre production. To enable these keys go to the TouchScreen **SURFACE SETUP** / **Preferences** page.

Note: To avoid accidentally overwriting your current settings make sure the Surface Scene Keys are disabled if you are not using them.

AFL/PFL active for inputs and outputs indicates that an Input or Output (Mix) PAFL is active. If both are active then the Input PAFL overrides the Output PAFL selection.

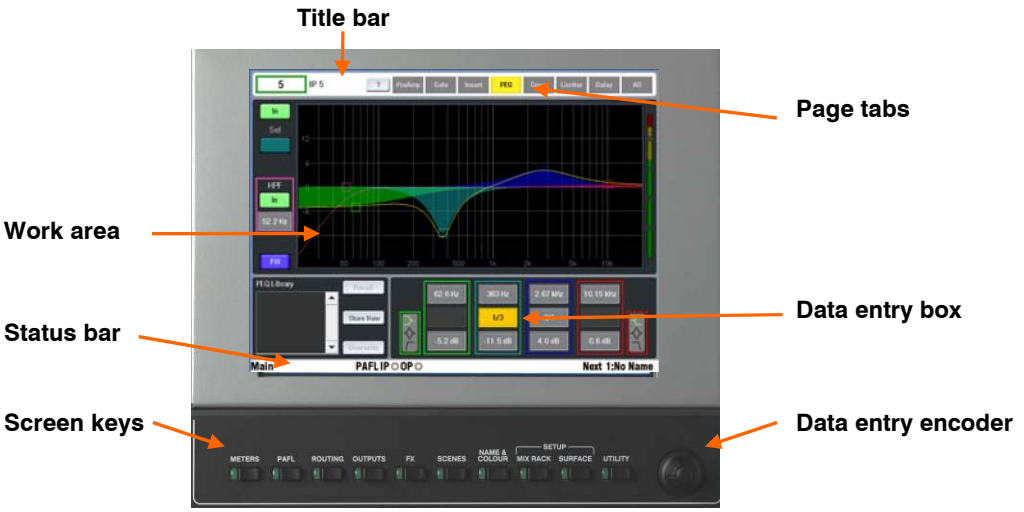
Status information The lower toolbar also displays useful information while operating the console. For example, it shows you what parameters are held in the copy buffer while the COPY or PASTE keys are held down.

USB symbol Displays when the system recognises a USB memory key plugged into one of its USB ports.

Yellow warning triangle Displays when a system error has been detected. Return to the Status page for further information.

Surface basics – The TouchScreen

The **TouchScreen** provides a graphical display of the parameters and assignments, allows configuration of the system, and management of the memories and data. Unlike many other digital consoles it is not essential to the live mixing operation. **iLive** avoids fiddly screen and menu based mixing by providing a large analogue style channel processing interface with dedicated rotary controls, switches and indicators. Although the screen can give you an alternative graphical view of these parameters, its main function is for system setup and data management. Help is available in each screen, use ?



Title bar Displays the name and information about the currently selected screen or channel.

Page tabs To select different processing screens or menu pages. If the screen has a **Return** button here then touch it to return to the previous or top level screen. The TouchScreen remembers the last page opened for each screen selected. For example, if the Compressor was the last item viewed in the channel processing screen, it will open in the Compressor view again when another channel is selected. Touch **All** to return to the top level processing 'thumbnail' view.

Status bar Displays various status information, the currently selected mix type and number, PAFL active status and the previous and next scene recall.

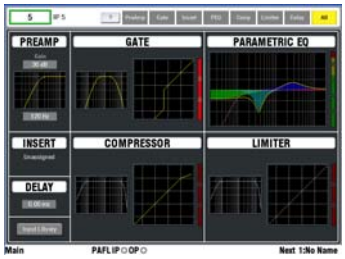
Data entry encoder Touch a data display box to select a parameter to adjust. The box turns orange to show it is selected. The data entry rotary encoder lights orange to show it is available for updating the value. Change the highlighted parameter value by scrolling up or down through its range.

Screen keys Press one of these keys to change the screen function. The green indicator lights to show which is active. With none of these selected the screen shows either the Status page (no channel selected) or a channel processing view (channel selected using its green **SEL** key).

Note: To display the status or channel processing pages make sure the screen keys are turned off. Selecting one of these keys overrides the status or selected channel view with the function indicated above the key.

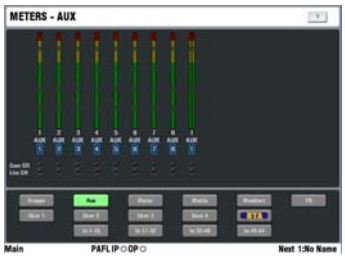
Note: Do not leave the screen in NAME&COLOUR, SURFACE SETUP or GANGING mode as these change the strip SEL key function. These modes are used during system configuration.

All screen keys turned off – STATUS With all the screen keys and strip **SEL** keys turned off the TouchScreen displays the Status page. This shows system status including firmware, temperature, audio system lock and digital audio network status. A **red cross** means a problem is detected. The page also displays the time, current user and last Scene recalled name. The lower part of the screen can be used to select one of the four custom user meter views or the RTA display. The RTA follows the current PAFL selection.

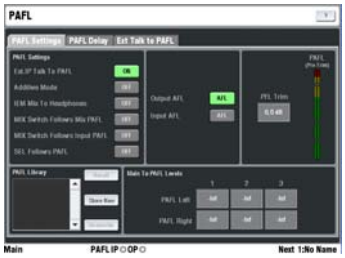


All screen keys turned off – Strip SEL selected If you press a strip **SEL** key while the screen keys are turned off then the TouchScreen displays the processing view for that channel. This can provide additional graphical information for the parameters shown on the controls to the left of the screen, for example an EQ or dynamics curve. Some channel and mix parameters are only available via the screen, for example delay, insert assignment, name and colour.

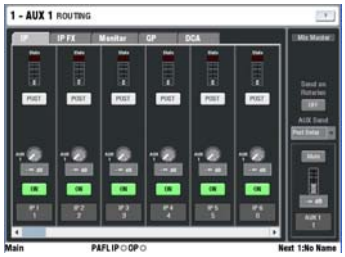
Screen key selected



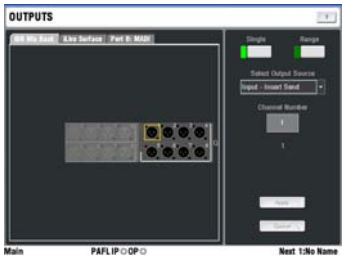
METERS Select from several pages of audio meters showing input channels, effects and mix masters. Includes 4x user custom meter views. You can name each view and configure any combination of up to 16 meters and spaces per view. The screen also lets you view the RTA display. The custom views and RTA can also be selected from the default Status page.



PAFL Set user preferences for the PAFL engineer's monitoring system. Choose between additive and auto-cancelling operating mode, adjust the PFL trim to avoid big level differences between PFL and AFL, set main mix to monitor level when no PAFL is selected. Choose to link the SEL and/or MIX keys with PAFL key presses. Select PFL or AFL operating mode for Inputs and Outputs. You can turn on and select the External Input to PAFL source for reverse talkback, and set delay to time align the monitor and headphones to the acoustic sound you hear from the stage.



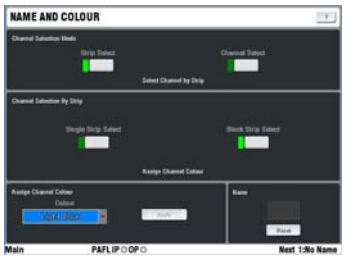
ROUTING This screen displays the routing and DCA assignments, direct out trim, send levels and preferences for the channel currently selected using the **SEL** key. For the Aux masters it lets you select the channel send source and choose to have the sends on faders or rotaries. The screen can provide an alternative to adjusting the mix sends and assignments on the fader strips using the **MIX** keys.



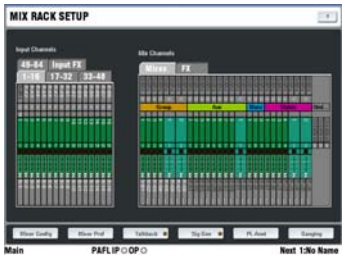
OUTPUTS Map signals to the physical sockets and audio network channels. Touch tabs let you select the MixRack, Surface, Port A and B patch bays. Use the drop down menu to assign single or a range of sockets from a choice of mixes, direct outs, insert sends and other sources.

FX Access the FX rack. Provides 8 virtual 'rack positions' for loading your choice of processing from a library of effects devices including reverbs, delays, modulators and more. A Front Panel view presents a familiar control interface for parameter data entry. A Rear Panel view lets you 'patch' the device into the signal path either as a 'mix>return' or 'insert'. Choose the input to the device from a mix or direct output, and its output to an FX (short) return or full channel.

SCENES Access the Scene memories for storing and recalling all or selected processing, mix and setup parameters. Scenes can be named, copied and edited. These are typically used for theatre show cues, multiple band music festival recall, event changes and so on. Console parameters may be added to a Scene, or the existing contents updated with the current console settings. The Reorder Mode screen allows single or multiple Scene moving, copying or removing from the list.

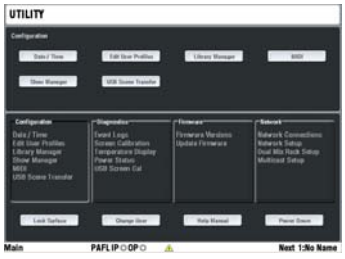


NAME&COLOUR Enters a setup mode to use the strip **SEL** keys to choose the input, mix and DCA master colours and enter 5 character names for each. Choose from a swatch of 6 colours plus off (no colour) for a single or range of channels. The colour is displayed as a backlight on each of the Surface strip LCDs. You can also store up to 48 custom names in a 'Quick Menu' for instant recall of commonly used names. Note that name and colour may also be set individually for the inputs and mixes using their normal **PREAMP** and **EXT IN** processing views.



MIXRACK SETUP View and configure the MixRack architecture. Configure the 32 mix buses from a choice of mono/stereo Group, Aux, Main and Matrix mix types. Choose from a list of main mix types such as none, M, LR, LCR, LR+Sub and more. Other pages let you configure the digital audio networks, Direct Out source, Talkback source, channel ganging setup, PEQ 20-20kHz frequency range option, access to the onboard signal generator and PL devices setup.

SURFACE SETUP Enters a setup mode to use the strip **SEL** keys to assign the Surface strips as input channels, mix masters, DCA masters and more in any combination. You can assign single strips or a range of strips within a fader bank. Other pages let you configure the SoftKey functions, PL device functions, the ALT VIEW key, and Surface preferences.



UTILITY This screen provides access to the system setup, configuration and diagnostic functions. Manage the Show and Library memories and User Profiles here. Factory default 'Template' Show memories let you load from a choice of standard configuration to give you a quick starting point with classic console architecture and layout. Save your customised configurations as User Shows. You can access the USB port for file transfer and archiving as well as updating the system with the latest firmware available from the Allen & Heath web site. This screen also provides access to many additional facilities including TCP/IP network setup, system event logs and diagnostics, changing user, locking the surface, reading the onboard Help manual and powering down the TouchScreen before switching the system off.

Surface basics - Fader control strip

The **Fader Control Strip** is the primary user interface for mixing with iLive. It provides a familiar analogue console layout and is arranged in banks across the surface. The smallest iLive surfaces have two banks of faders, the larger models have three. Each fader bank has 4 layers A, B, C, D (6 on iLive R72) providing the largest surface with 176 strips, and even the smallest with as much as 72. Any input, mix master, DCA master or engineer's PAFL master can be mapped to any strip on any layer. You can map these to multiple strips letting you arrange different combinations of channels across the layers, or the same across several layers and banks. With thoughtful choice of colour and strip assignment you can create an intuitive console layout that suits the way you want to work. You can save this layout in the Scene and Show memories for future recall or transfer to other iLive systems.

Meter Displays audio signal activity for the channel or mix master. Input channel metering is post-processing, pre-fader. Mix master metering is post-fader, post-mute so you can check the signal present at the output. The red PK! indicator lights to warn that the signal is within 5dB of clipping. It is multi-point sensing which means it detects peak activity at several points in the signal chain and can therefore keep a check on signal activity throughout the channel path.

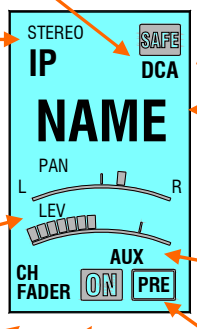
Note: If the top red LED lights before the rest of the meter, or while the channel fader is down, this means that the signal is peaking earlier in the channel path. Press **SEL** to open up the channel processing and check signal activity.

Note: iLive meters are fast response digital absolute peak meters. This ensures you keep control and avoid digital clipping of signals including those with very fast dynamics. It does mean the **iLive** meters may read hotter than those on other consoles you are used to. It is perfectly ok to work with meters reading well into the yellow, but back the level off if the red PK! LED flashes.

Strip LCD The LCD strip spans the fader bank and is the digital equivalent of the traditional console write-on strip. It displays information about the channel assigned to the control strip – Channel type, name or number, rotary encoder function and setting, channel status, and information about the current mix. A 6 colour backlight displays the user assigned channel colour. The LCD switches to display the related EQ frequency while in GEQ on faders mode.

DCA status
On = The channel is assigned to one or more DCA groups.
Flashing = Channel is muted by DCA groups.

Strip type
Mono or stereo
IP = Input channel
IP FX = FX 'short' return
GP = Group master
AUX = Aux send master
MAIN = Main mix
MTX = Matrix master
DCA = DCA master
WDG = Wedge master
IEM = IEM master



SAFE status
Normal mode = SCENE safe
Solo-in-place mode = SIP safe

Name
5 character, user defined name. Shows DSP channel number, socket position or dB value in ALT VIEW

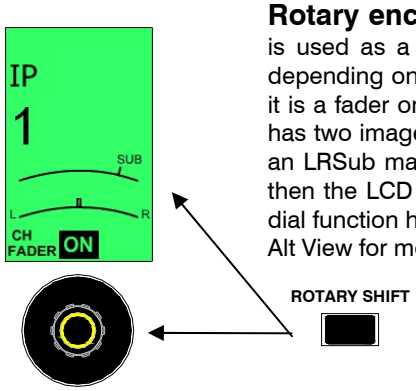
Current MIX status
Indicates currently selected fader or rotary mix.
GP, FX, AUX, MTX

Rotary setting
LEV, PAN, BLEND, SUB, M, Gain etc

CH FADER
Turns on when the strip fader is the channel or master fader. Turns off when the fader is a send level control.

ON
The channel is assigned to the current mix or DCA.

PRE
The channel AUX or MTX send is pre-fader. Off = post-fader.

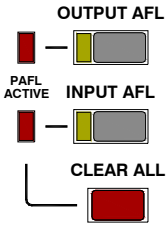


Normal and shifted rotary functions

Rotary encoder This control lights up when it has a function assigned. It is used as a Send level, PAN or image control, or access to Preamp Gain depending on the type of mix currently selected with the **MIX** key and whether it is a fader or rotary mix or an alternate function set up in Alt View. If the mix has two image functions, for example, PAN and SUB level when configured as an LRSub main mix, or Aux SEND and PAN for a stereo Aux mix on rotaries, then the LCD displays two dials, one for each function. To access the upper dial function hold down the ROTARY SHIFT key while turning the encoder. See Alt View for more information on other functions.

SEL key This green key provides access to the channel processing and is also used for certain setup functions. The current settings for the selected channel are displayed in the large processing control section above the strips. Alternatively, associated send and assignment information is displayed in the TouchScreen if the **ROUTING** screen key is selected at the same time. The rotary controls illuminate when they are active. Press another **SEL** key to access the processing for a different channel, or press the key again to turn it off. With no processing selected the control section turns off. The **SEL** key is also used to reset GEQ bands when in GEQ FADER FLIP mode, used in conjunction with the Copy/Paste/Reset keys to select data, and is used when assigning Surface strips, Name and Colour and channel Ganging.

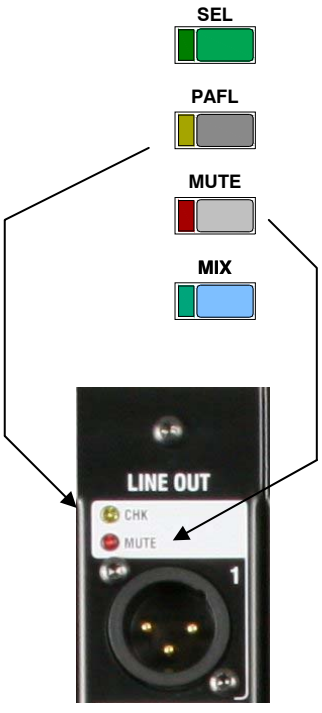
Note: The SEL keys do not access the channel processing if the console is in a setup mode (NAME&COLOUR, MIXRACK or SURFACE SETUP). In this case they are used to select strips for the related setup mode. To avoid operator confusion do not leave the screen in one of these setup modes.



PAFL key Selects either the PFL (pre-fade listen) or AFL (after-fade listen) signal to the engineer's headphones / local monitor depending on the setting of the AFL keys below the PAFL meters. Press PAFL keys to toggle them on or off, or use the CLEAR ALL key in the master section to turn off the current selection. The associated yellow CHK indicators light on the modular iDR10 MixRack and iLive Surface audio modules while PAFL is active. The T and R Series does not provide these indicators.

Operating preferences may be set using the PAFL screen and include:

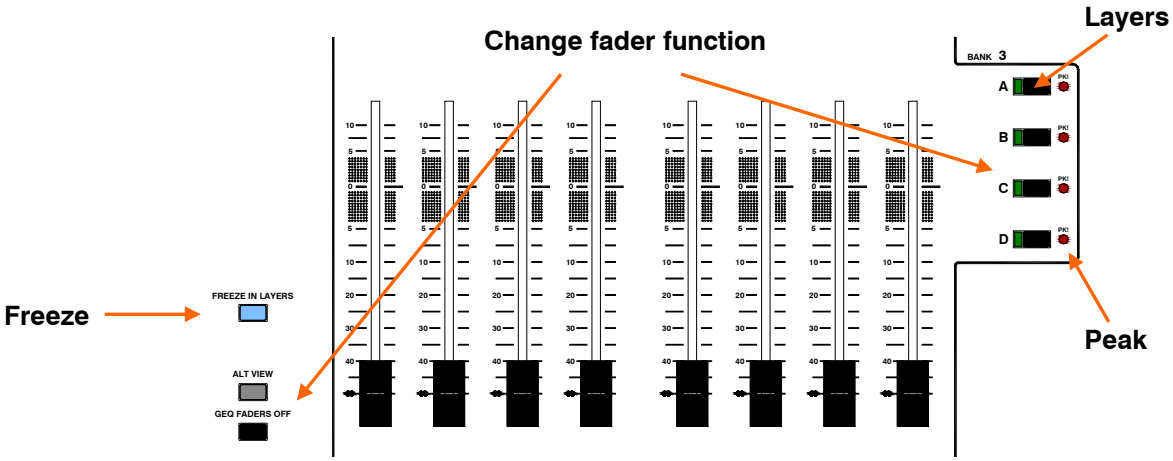
- Auto-cancel or additive mode
- AFL level trim
- Link **SEL** key to PAFL key
- Link **MIX** key to PAFL key (separate options for Input and Mix)



MUTE key Turns off the channel, mix or DCA as it would on a traditional analogue console. It mutes the pre and post fade signals. The associated red MUTE indicators light on the audio output modules in the MixRack or Surface while mute is active.

Note: As standard, MUTE always affects the whole channel. It does not provide individual send muting while in AUX or MTX mix mode. The ability to quickly mute the whole channel while in any mix mode is important for live sound mixing. To switch individual Aux or Mtx sends on or off use the ASSIGN function.

Fader The fader is motorised and automatically changes position to reflect the current mix setting when you select different fader layers or change the mix using the **MIX** keys. They also change to show the mix master GEQ (graphic EQ) settings when in GEQ FADER FLIP mode.



Working with Layers Each bank of faders has a number of layers. Therefore a bank with 8 faders can control a large number of channels or masters. The largest surface with 44 faders can control up to 176 of these, while the smallest with 12 faders can control up to 72.

A, B, C, D, (E, F) keys Press to select the layer you want to work with. The faders move, encoders, LCDs and meters change to show the current settings of the assigned channels and masters. The layer keys affect each bank independently by default, but can be linked so that all are affected if preferred. To change this user preference go to the **SURFACE SETUP / Preferences** screen and touch the Link Fader Banks button.

PK! indicators The red PK! indicator next to each Layer key lights when a signal associated with the layer is approaching its peak level. This helps you keep a check on all system signal peak activity even when you do not have those channels in view. A peak anywhere in the channel signal path is detected. If a layer PK! indicator flashes, switch to that layer, check the meter activity to find the peaking channel, select it and reduce its gain or level.

FREEZE IN LAYERS key Lets you 'freeze' a selected strip across all layers so the assigned channel, master or DCA remains in view when you change between layers. This is intended as a temporary measure while mixing live, for example if a problem is suspected with a radio microphone and you want to keep a check on it. Note that channels you normally want to keep in view at all times can be assigned to the same strip across all or more than one layer using the **SURFACE SETUP** screen. To freeze or unfreeze strips hold down the FREEZE IN LAYERS key and press the strip **MIX** keys. While the key is held down, the blue indicators display which strips are frozen.

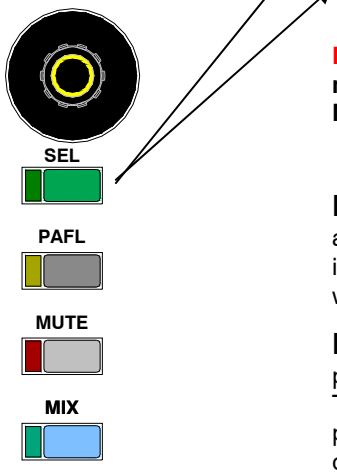
ALT VIEW key Hold down this key to temporarily overwrite the user assigned names displayed on the strip LCDs with alternative information and to access the Alternate Rotary function. Depending on your setting in the **SURFACE SETUP / Alt View / Rotary Setup** screen the display can be the physical socket number, DSP channel number or associated dB value. This is useful when you want to check channel numbers, for example when checking the patching or assigning strips and sockets. The Rotary setup allows the user to define which functions appear on which channel Rotary control levels – Normal, Rotary Shift and Alt Rotary. This feature can be used to allow quick access to channel Preamp Gain (or Trim) from each strip.

GEQ FADER FLIP key Flips the fader function to show the graphic EQ frequency settings while a master **SEL** key is active. Press the key to toggle back to normal fader mode. On the smaller Surfaces press the key to toggle between sections of the GEQ.

Surface basics – The SEL key

The primary function of the fader control strip **SEL** keys is to access the signal processing and routing for the channels, FX, mix or DCA masters. These keys are also used while in system setup mode to configure the strip functions, names and colours. They are also used to access different processing blocks when copying or resetting parameters. The CHANNEL PROCESSING BLOCK presents all the live mix processing controls for instant access in a familiar analogue layout. It is the primary interface for live mixing. The TouchScreen provides additional graphical and setup information but is not integral to the live mixing function.

The smaller 80 Surface does not include the dynamics (Gate, Compressor and Limiter) controls. Access these using the TouchScreen. Due to its size the smallest R72 Surface does not include the Processing Block. Access these functions using its TouchScreen.



Processing block

TouchScreen view (with none or **ROUTING** screen key active)

Note: For access to the channel processing using the SEL keys make sure the TouchScreen is not in SURFACE, MIXRACK or NAME&COLOUR mode.

Rotary Controls These controls illuminate when they are available. For example, the GATE controls turn off while a mix master is selected. LED dials display the current setting for each control when different channels are selected.

Peak and signal meters Peak indicators and signal meters are presented throughout the signal path. The three dynamics processor THRESHOLD controls feature signal meters that display beneath the pointer on the LED dial so you can quickly see where to set the control.

Note: iLive peak indication is multi-point sensing. If any part of the signal chain peaks then the top PK! indicator of the control strip meter illuminates. The red PK! indicator next to the associated LAYER select key also lights.

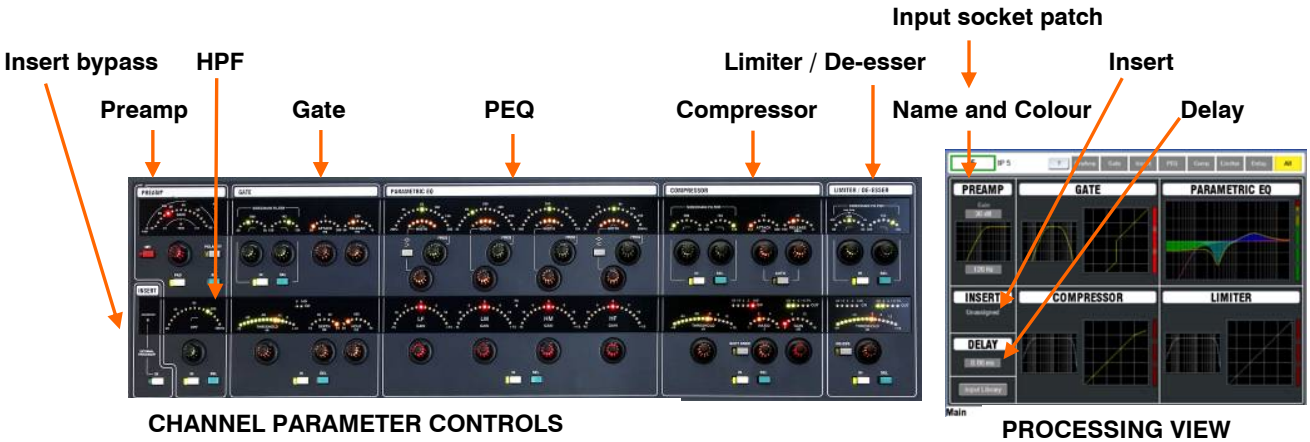
Processing block IN keys Switch the processing in each section in or out. The green indicator lights when the processing is switched in. Metering including gain reduction remains present so you can check the effect of a processor before switching it in.

Processing block SEL keys While the TouchScreen is in the channel processing view pressing a Processing Block **SEL** key opens its screen view. This is an alternative to touching the screen to open a processing view such as PEQ or Compressor.

If you press and hold down a processing section **SEL** key you can listen to the signal at that point in the signal chain using the headphones and local monitor. The PAFL meters display the signal level while pressed.

These **SEL** keys are also used for to copy/paste and reset sections of the channel signal processing.

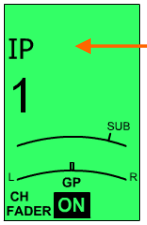
Using a SEL key to access Input Channel Parameters



CHANNEL PARAMETER CONTROLS

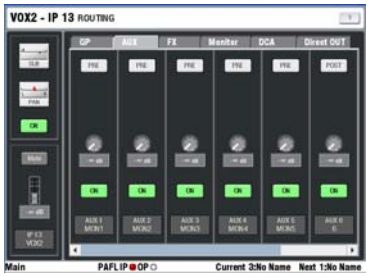
PROCESSING VIEW

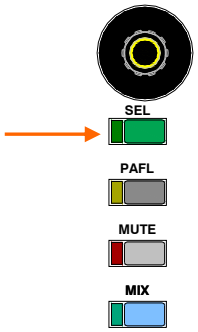
ROUTING VIEW



Mono Input
Stereo Input
FX return via Input

CH fader, pan, mute
Main mix assign
Group assign
Aux sends
FX sends
DCA assign
Direct Out level





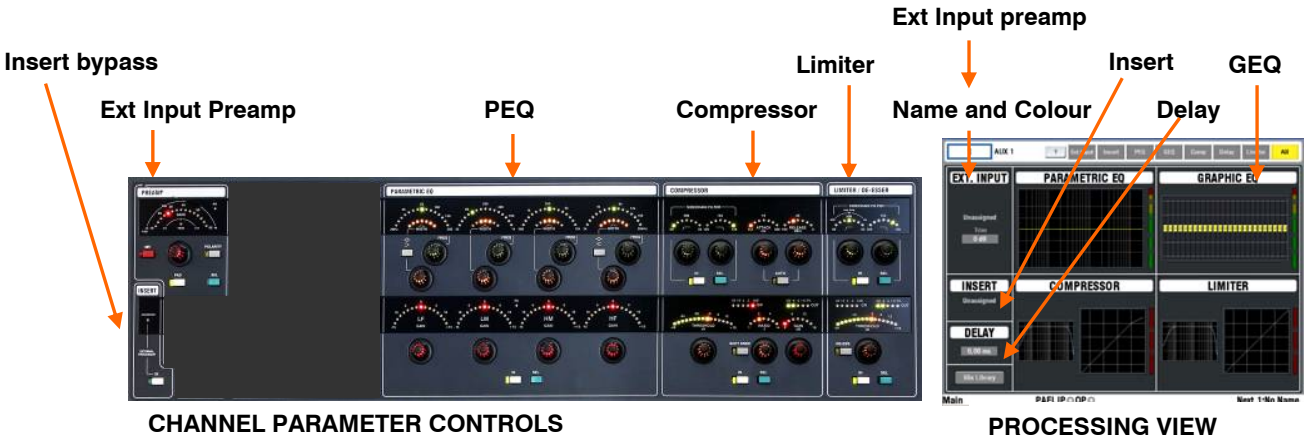
PARAMETER CONTROLS - Press an **IP** (Input) channel **SEL** key to access the parameters for that channel using the analogue style controls in the processing block to the left of the screen. Every input channel has preamp control, a HPF, gate, PEQ, compressor, limiter/de-esser, delay and insert capability.

PROCESING VIEW - **With all TouchScreen keys off**, the screen ALL view shows 'thumbnails' for each signal processor within the channel. Touch the screen tab or press a processing block **SEL** key to open the associated screen view. This gives you an alternative graphical display and control of the signal processing, for example an EQ or dynamics curve. Setup functions such as Input socket patch, Insert, Delay, Name and Colour are accessed using the screen only. The complete channel and each processing section includes a **library** for storing and naming your favourite settings. These can be recalled into other channels and transferred to another iLive or PC via USB key from within the **UTILITY/Configuration** page.

ROUTING VIEW - **With TouchScreen ROUTING page on**, the assignments and send levels for the selected channel are shown. This gives you an alternative for controlling the mix using the screen instead of the Surface **MIX** keys.

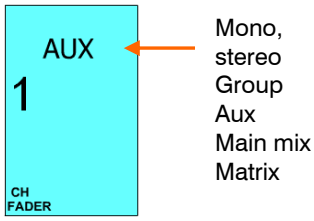
Note: Unlike several other digital mixing systems, the screen is not an essential part of live mixing with iLive except on the smallest Surface, the R72. Channel parameters are adjusted using the analogue style rotary controls, switches and displays within the processing block. Mix assignments, pre/post settings, fader and send levels are adjusted using the Surface control strips. Send levels can be adjusted using faders or the strip rotary controls. Set this option in the **ROUTING** screen for the mix master.

Using a SEL key to access Mix Master Parameters



CHANNEL PARAMETER CONTROLS

PROCESSING VIEW

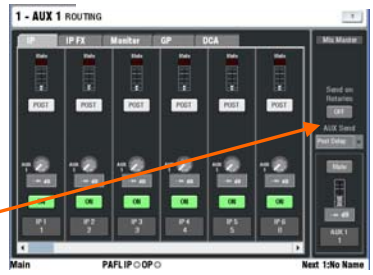


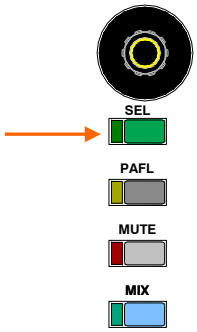
Mono,
stereo
Group
Aux
Main mix
Matrix

Master fader, pan, mute
Main mix assign
CH Aux sends
CH pre/post
FX sends
DCA assign

Sends on faders or rotaries
CH send source

ROUTING VIEW





PARAMETER CONTROLS - Press a **GP, AUX, FX, MAIN, MTX** or **PAFL** (Engineer's listen) master **SEL** key to access the parameters for that master using the analogue style controls in the processing block to the left of the screen. Every mix master has both a PEQ and a third octave GEQ as well as compressor, limiter, delay, external input and insert capability.

PROCESING VIEW - **With all TouchScreen keys off**, the screen ALL view shows 'thumbnails' for each signal processor within the master. Touch a screen tab or press a processing block **SEL** key to open the associated screen view. This gives you an alternative graphical display and control of the signal processing, for example an EQ or dynamics curve. Setup functions such as External input source, Insert, Delay, Name and Colour are accessed using the screen only. Each processing section includes a **library** for storing and naming your favourite settings. These can be recalled into other channels and transferred to another iLive or PC via USB key from within the **UTILITY / Configuration** page.

ROUTING VIEW - **With TouchScreen ROUTING page on**, the assignments and send levels feeding the selected master are shown. This gives you an alternative for controlling the mix using the screen instead of the Surface **MIX** keys.

Note: Unlike several other digital mixing systems, the screen is not an essential part of live mixing with iLive except on the smallest Surface, the R72. Processing parameters are adjusted using the analogue style rotary controls, switches and displays within the processing block. Mix assignments, pre/post settings, fader and send levels are adjusted using the Surface control strips. Send levels can be adjusted using faders or the strip rotary controls. Set this option in the **ROUTING** screen for the mix master.

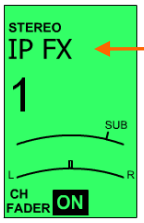
Using a SEL key to access Short FX Return Parameters

PEQ

CHANNEL PARAMETER CONTROLS

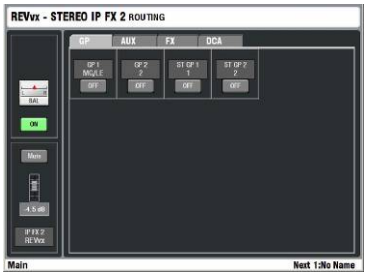
PROCESSING VIEW

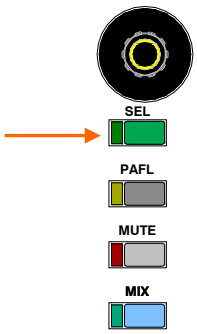
ROUTING VIEW



FX short return

CH fader, pan, mute
Main mix assign
Group assign
Aux sends
FX sends
DCA assign





The iLive 'RackExtra' DSP mix engine provides a virtual rack to load up to 8 effects devices such as reverbs, delays and modulators. An FX 'short return' is a stereo input channel that returns the output of the device to the mix. In addition to the parameters available within the FX screen, a 4-band PEQ is provided on each. These returns add to the channel count. You get 64 full channels plus 8 short stereo returns, the equivalent of using an 80 channel analogue console.

PARAMETER CONTROLS - Press an **IP FX** channel **SEL** key to access its PEQ settings using the analogue style controls in the processing block to the left of the screen, and its processing parameters and routing using the screen view.

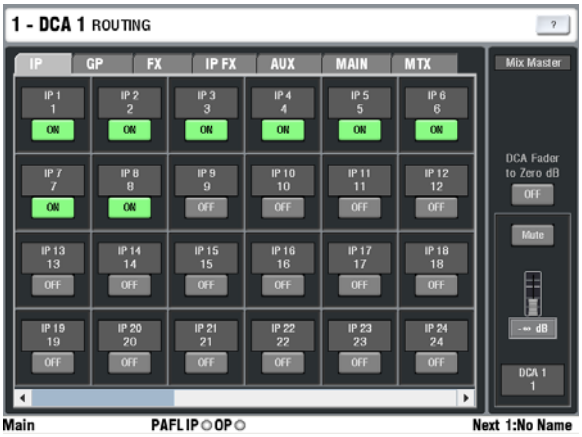
PROCESING VIEW - **With all TouchScreen keys off**. Touch the Front Panel button to display the parameter settings view, as if you are working with a traditional rack mounted effects unit. Touch the value boxes or controls to highlight them and use the screen encoder to adjust the settings. Touch the Back Panel button to display a 'virtual' view of the rear connectors. Use the drop down menus to use the device in a Mix/Return loop (system effect such as reverb) or inserted into a channel. You can feed a system effect from a mono or stereo mix bus or direct output, and return it via a short return or full channel. The screen also displays the send/return levels, mutes and PAFL, and provides access to a library to recall factory presets or store your own settings.

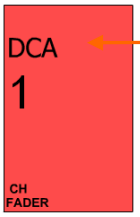
Touch the PEQ button to open up the 4-band FX return PEQ graphical display. Touch the DFX button to open up the dynamic FX controls for the effect.

ROUTING VIEW - **With TouchScreen ROUTING page on**, the assignments and send levels for the selected device are shown. This gives you an alternative for controlling the FX mix using the screen instead of the Surface **MIX** keys.

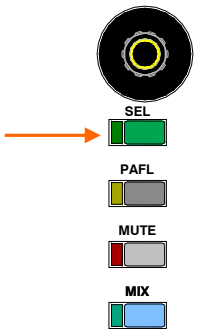
Using a SEL key to access DCA Settings

Assign from:
Input channels
FX return channels
Group masters
Aux masters
Main mix masters
Matrix masters





DCA master

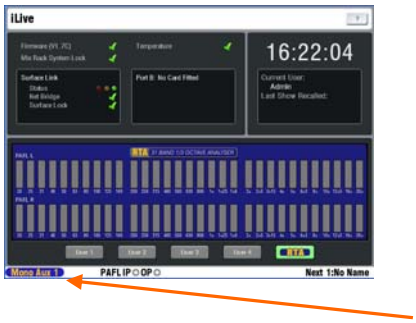


With all TouchScreen keys off press a DCA master strip **SEL** key to open its assignment view. Touch the screen buttons to toggle the assignments on or off. The screen provides an alternative to using the **MIX** keys to view and change DCA assignments.

DCAs as MUTE GROUPS - Turn the DCA Fader to Zero dB option on to configure the DCA group as a Mute group. This keeps the master fader at the '0' position so it does not affect the group level. Use the DCA master MUTE key as the Mute group master.

Surface basics – The MIX key

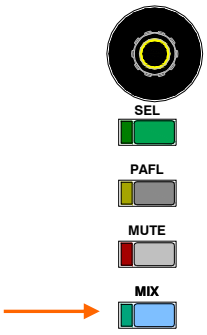
The primary function of the fader control strip **MIX** keys is to access the routing and levels for the different mixes, and to assign the DCAs. This is fundamental to mixing with iLive giving you quick access with full fader or rotary encoder control of every mix. The active **MIX** determines the function of the fader/encoder area of the Surface. You can view the mix from the master (all sources to a mix) or from the channel (sends to all the mixes). When you turn off a **MIX** key the default main mix (if configured) is automatically selected. The blue LED indicators and strip LCDs display the current mix status. When a mix is accessed and the sends on faders mode is set the motorised channel faders move to show the send level and can be adjusted. The faders are no longer channel faders and the **CH FADER** icon in the LCD display will turn off. The **MIX** keys are also used to copy or reset mix levels and assignments, and for other functions including the assignment of channel safes and talkback destinations. Assignment functions require a press and hold operation which avoids mistakes through leaving the console in a setup mode.



Note: It is important that the operator becomes familiar with the function of the SEL and MIX keys. These make mixing with iLive very quick and intuitive once learned.

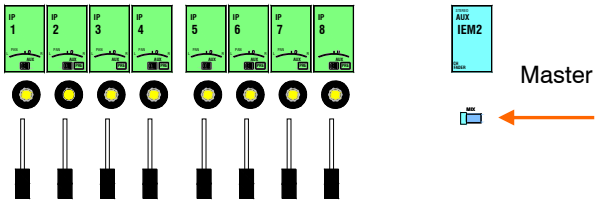
Note: To avoid mistakes while mixing we recommend that you return to your Main mix after making changes to your Groups, Auxes, FX sends, Matrix or DCAs. Do this by pressing the currently active **MIX** key to turn it off, or selecting the main mix again, or pressing any **MIX** key on then off.

The TouchScreen lower status toolbar displays which mix is currently active.

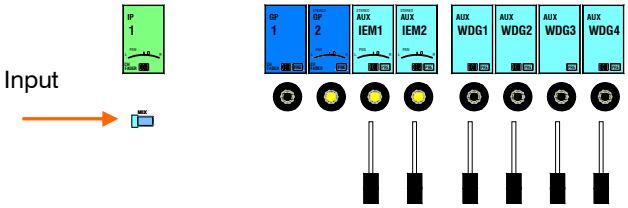


Three ways to work with the mix:

1 **All sends feeding one mix** - Press a master **MIX** key.



2 **All sends from one channel** - Press a channel **MIX** key.



3 **TouchScreen ROUTING view** - Press a channel or master **SEL** key while the TouchScreen ROUTING page is active.

TouchScreen

Using the Master MIX key - View all sends feeding one mix.

Select mix

1. Press **MIX** on the mix master strip. View the current settings on the channel strip LCDs and faders/rotaries.

Assign channels

2. To assign individual channels to the mix, hold down the **ASSIGN** key and then press channel **MIX** keys to toggle them on or off. The strip LCDs display an 'ON' icon when assigned. To assign all channels on or off, hold down **ASSIGN** and then press the master **MIX** key to toggle all on or off.

Set Pre/Post fade

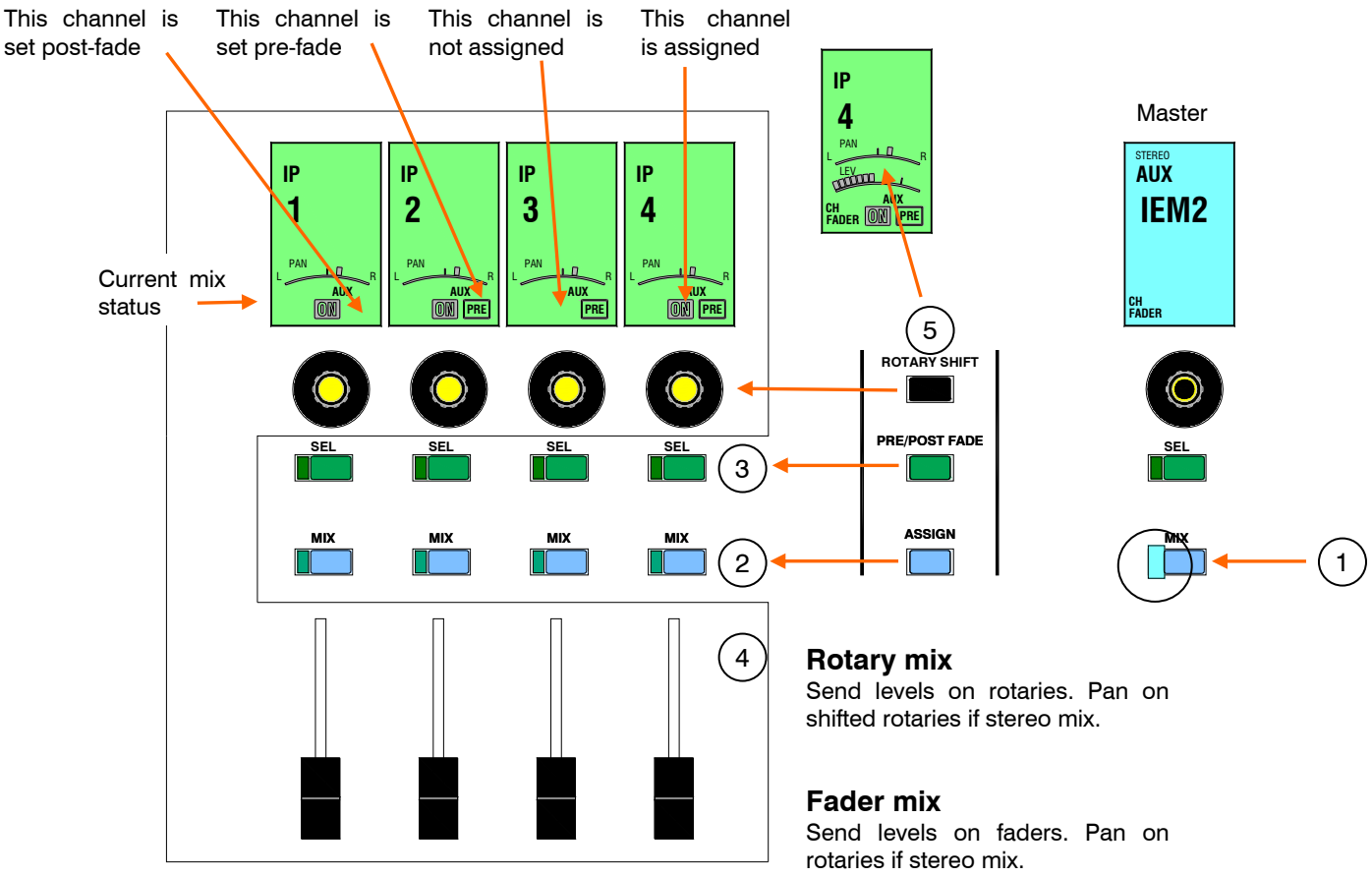
3. To set individual sends pre or post-fade, hold down the **PRE/POST** key and then press channel **SEL** keys to toggle them pre or post. The strip LCDs display a 'PRE' icon when set to pre-fade. To set all sends pre or post, hold down **PRE/POST** and then press the master **SEL** key to toggle all.

Adjust send levels

4. For aux, FX and matrix mixes, the faders or rotaries become the sends depending on the setting of the 'Send on Rotaries' button in the ROUTING screen with master strip **SEL** active. If a rotary send, then the faders remain as channel faders. For groups and DCAs (no send levels), the faders and encoders remain unaffected.

Adjust stereo pan

5. For stereo aux and matrix sends, the rotaries become the PAN controls. If a stereo send is configured for rotary levels then the second (PAN) function as accessed by holding down the **ROTARY SHIFT** key while turning the encoder. In this case the strip LCD displays two dials.



Rotary mix
Send levels on rotaries. Pan on shifted rotaries if stereo mix.

Fader mix
Send levels on faders. Pan on rotaries if stereo mix.

Using the Channel MIX key - View all sends from one channel.

Select mix

1. Press **MIX** on an input channel strip. View the current sends and assignments from that channel on the master strip LCDs and faders/rotaries.

Assign to mixes

2. To assign to individual groups or sends, hold down the **ASSIGN** key and then press master **MIX** keys to toggle them on or off. The master strip LCDs display an 'ON' icon when the channel is assigned to it. There is no 'assign to all' function.

Set Pre/Post fade

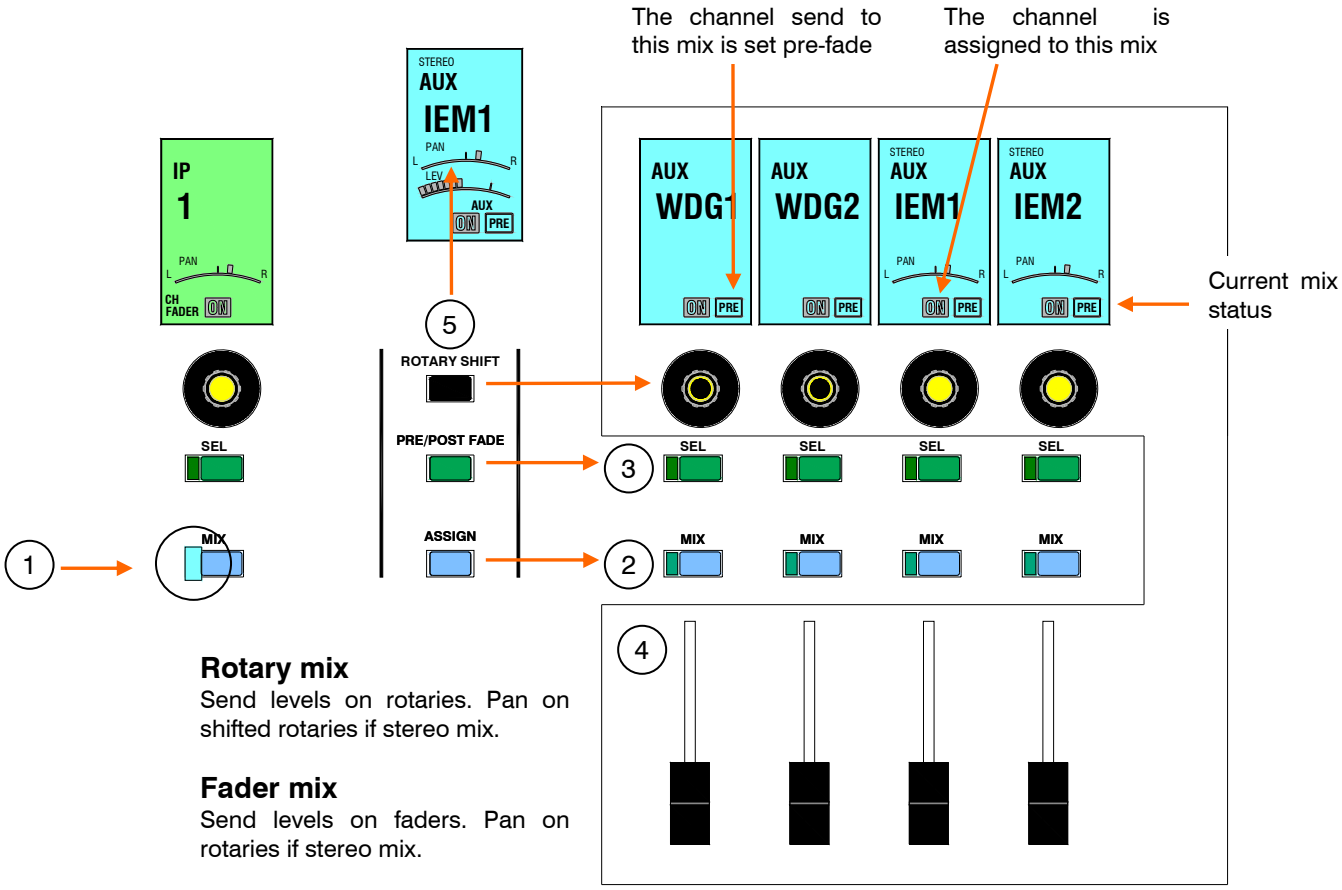
3. To set individual sends pre or post-fade, hold down the **PRE/POST** key and then press the related master **SEL** keys to toggle them pre or post. The strip LCDs display a 'PRE' icon when set to pre-fade.

Adjust send levels

4. For aux, FX and matrix mixes, the faders or rotaries become the sends depending on the setting of the 'Send on Rotaries' button in the ROUTING screen with master strip **SEL** active. If a rotary send, then they remain as master faders. For groups and DCAs (no send levels), the faders and encoders remain unaffected.

Adjust stereo pan

5. For stereo aux and matrix sends, the rotaries become the PAN controls. If a stereo send is configured for rotary levels then the second (PAN) function as accessed by holding down the **ROTARY SHIFT** key while turning the encoder. In this case the strip LCD displays two dials.



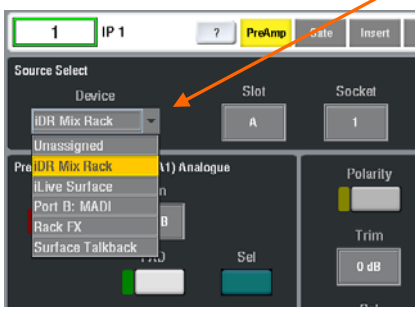
Rotary mix
Send levels on rotaries. Pan on shifted rotaries if stereo mix.

Fader mix
Send levels on faders. Pan on rotaries if stereo mix.

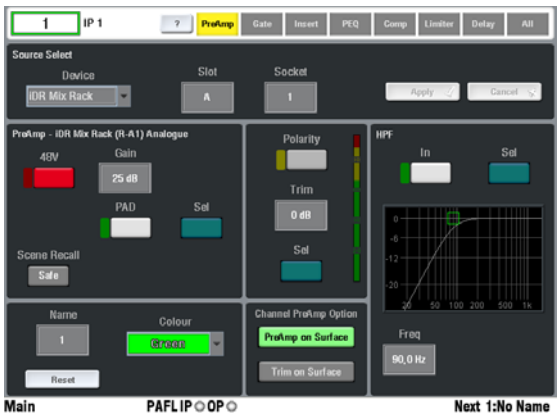
Channel and Mix processing

iLive provides plenty of signal processing for its input channels, effects returns, mix masters and up to 8 internal stereo FX devices. This replaces the large racks of outboard equipment that typically accompany the traditional analogue mixing system. iLive has a huge amount of DSP power to make its processing available to all channels at all times. You do not need to allocate processing from a limited resource of DSP. The processing is instantly accessible on selecting a channel or mix, with dedicated analogue style controls and alternative TouchScreen control.

Note: **To select phantom power using the processing block 48V key hold it down for 1 second.** This is to protect against accidental operation. Red PP LEDs light on the modular iLive MIC/LINE input modules when phantom power is detected on their sockets, whether from their own mic preamp or an external sources. These are not available on the T or R Series.



PREAMP (Channel only)



Input patch bay Select the input source for the channel from the Device drop down menu and press **Apply** to confirm. This lets you rearrange your patch according to how things are plugged up on stage, split signals into two or more channels, select from remote sources such as an EtherSound, MADI or ACE mic splitter and more. Channel sources include:

Unassigned

Available **MixRack** input socket

Available **Surface** input socket

Port A channels 33 to 62

Port B channels 1 to 64

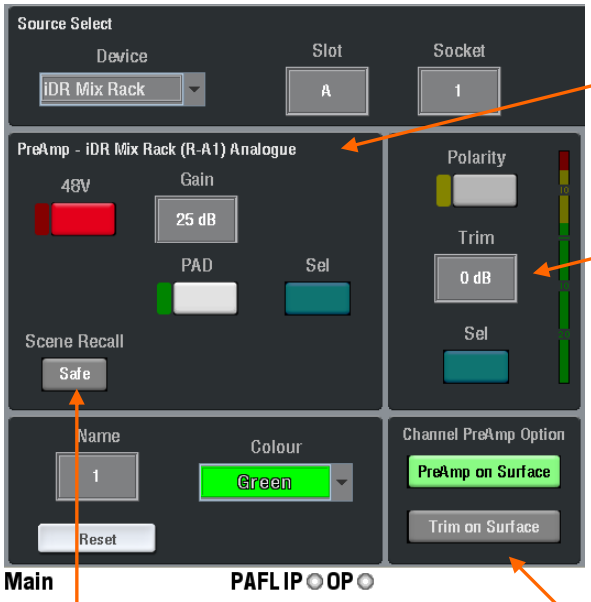
Effects rack

Surface Talkback

Controls for preamp Gain / Trim, Polarity reverse, Pad and 48V phantom power are presented if a MIC/LINE input is selected. These remotely control the analogue head amp in the MIC/LINE module. Reduce the gain if any of the channel PK! indicators light.

HPF The PREAMP includes a swept frequency high pass filter with IN/OUT switch and sweep from 20Hz to 400Hz.

Name and Colour Touch the Name box to access a touch keypad to enter a 5 character channel name. Use the 'Quick Menu' view to store and recall commonly used names. Touch the Colour box to access a drop down menu to select the channel (LCD backlight) colour (6 colours and off).



SCENE RECAL SAFE By default preamps are included in the Channel Safe function and if a Channel is made safe from Scene recalls this key will be illuminated and all channel attributes will be protected. However, with iLive it is possible to share input preamps across a number of channels and in that case you may wish to override the Safe setting for the preamp. When a preamp is assigned to multiple channels the screen will inform you and provide access to a list of the channels sharing that preamp for you to review.

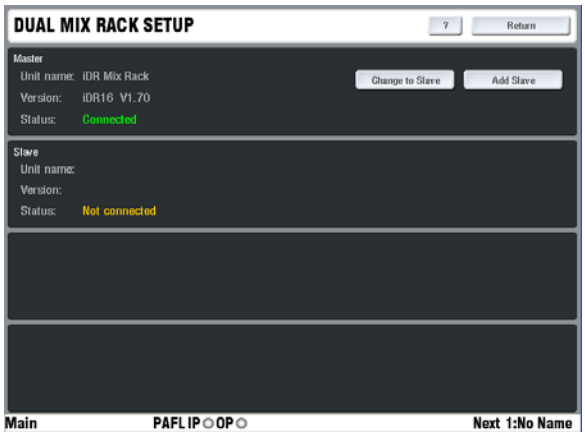
PREAMP controls This section controls the Gain, Pad and 48V phantom power of the analogue mic preamp (head amp) at the input socket and before the A to D (analogue to digital) converter. These settings are not part of the channel processing as the preamp can be assigned to any one or more of the DSP channels.

TRIM and POLARITY controls This section is after the A to D converter and provides polarity (phase) reverse and a +/-24dB digital trim. These settings are part of the DSP channel processing.

PREAMP (DUAL MIC/LINE IN) If the dual input module is detected then the screen includes a touch button to select between the A an B input connections.

PREAMP (DIGITAL IN) If a DIGITAL IN source is selected then a +/-24dB level trim control, polarity and source selection for one of AES, SPDIF, optical inputs are provided. If Port A or Port B digital audio network source is selected then a trim and polarity switch are provided.

CHANNEL PREAMP OPTION Two switches are provided in this section to provide a solution for Gain Sharing when one preamp is digitally split between two consoles, for example FOH and Monitor. **PreAmp on Surface** places the main preamp gain control that is before the A to D conversion on the control strip. **Trim on Surface** places the digital trim control on the control strip. This function provides access to the preamp gain by one operator during sound-check or in an emergency, but allows each operator to have control of their own 'gain' without affecting the other by using the digital trim.



Refer to later in this guide for more on setting up Dual-Rack systems.

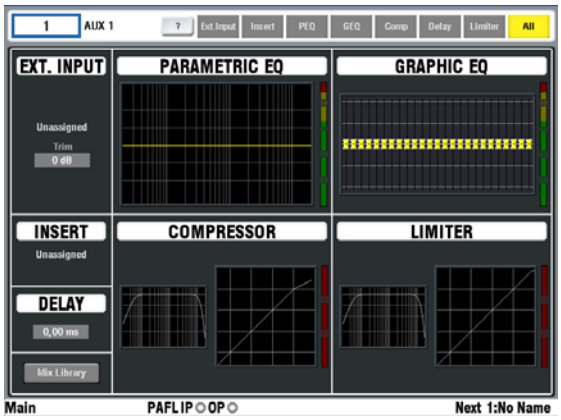
Note: When a Dual MixRack configuration is being used it is important to remember how the input DSP channels are configured and related to the physical sockets associated with each of the **Master** and **Slave** MixRacks. Each MixRack has 64 'DSP channels' of input processing so the linked system delivers processing of 128 input channels to the mixes. The MixRacks can have a variable number of physical input connections. So if an iDR48 was Master and an iDR32 was Slave then 48 inputs of the Master can be patched to any of the 64 DSP channels in the M aster rack (1-64), and the 32 inputs of the Slave can be patched to any of the 64 DSP channels in the Slave rack (65-128). Inputs at the Surface are patched to channels on the Master MixRack. This means that you could have a gap in your channel planning but this is because the units are linked only by the mix busses, not the inputs.

Make a note of the system DSP channel numbers and associated socket numbers versus your channel plot sheet.

Master MixRack = CH1-64

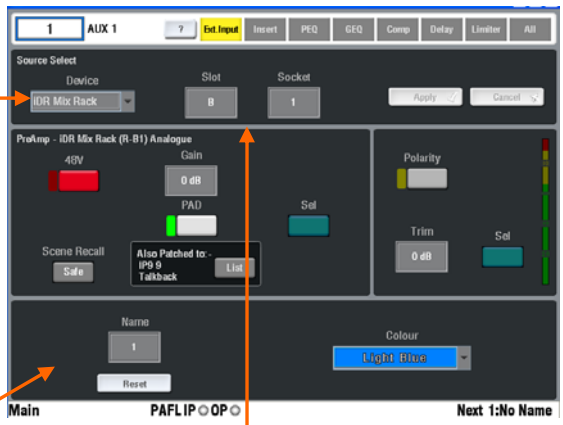
Slave MixRack = CH65-128

EXT. INPUT (Mix only)



You can patch a source as a mix master External Input. To open up the view touch the EXT INPUT section in the top level 'thumbnails' view for the master.

MixRack
Surface
Port A
Port B
Rack FX
Surface Talkback

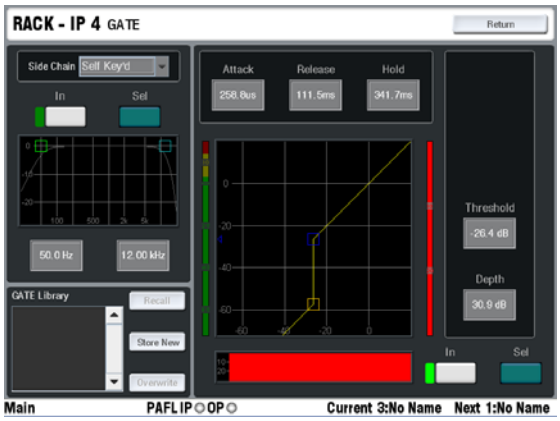


Ext Input patch bay Select the input source from the Device drop down menu and press **Apply** to confirm.

Mix Master name and colour

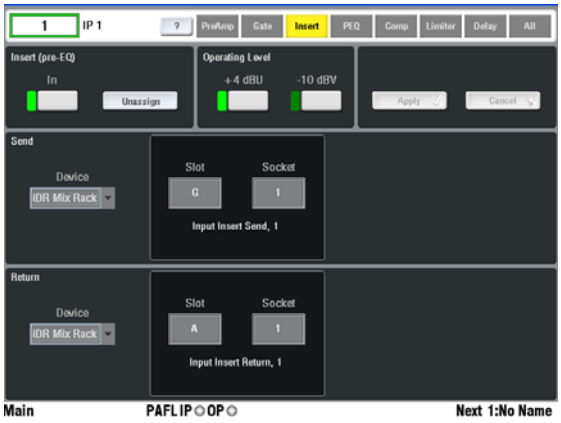
Name and Colour The mix master name and colour can also be set from within this view. Touch the Name box to access a touch keypad to enter a 5 character name. Use the 'Quick Menu' view to store and recall commonly used names. Touch the Colour box to access a drop down menu to select the (LCD backlight) colour (6 colours and off).

GATE (Channel only)



The noise gate provides a full set of controls and signal metering as you would find on a top grade outboard processor. The side chain filter may be switched in or out and self keyed or keyed from another input (within an associated range of 8 DSP channels). Use the controls or screen to set the threshold (a signal meter displays under the control to help you set this quickly), depth (how much the gate attenuates), hold time (how long the gate remains open after the signal drops below the threshold), and dynamics. A screen histogram displays the gate activity over time.

Note: The side chain can only be keyed by itself or one of 8 channels in the **same DSP block**.



INSERT (Channel and Mix) new pic

A physical input and output socket may be assigned as an insert send and return for a channel if outboard processing is required. Configure this by touching the top view INSERT box to open the INSERT page. Select the sockets (devices) to use for the send and return and the operating level (+4dBu or -10dBV).

Note: In most cases it should not be necessary to insert outboard processing. iLive features plenty of high quality built-in processing on every channel and mix output.

Note: Sockets assigned as inserts are not available for use as channel or mix inputs or outputs. To reuse the sockets first deassign the associated inserts.

PEQ (Channel, FX return and Mix)

The equaliser is 4-band fully parametric with cut/boost, swept frequency and width controls per band. The HF and LF bands may be switched as shelving, bell or pass type filters. The WIDTH control turns off if the band is set as shelving. GAIN turns off if the band is set as a pass type. The TouchScreen gives you a graphical view of the EQ curve and alternative data entry using touch boxes and encoder. The screen display also allows you to change the style of graph and to see the High Pass filter settings relative to the PEQ. The frequency range of each band has been carefully chosen to provide good resolution with appropriate overlaps but if you prefer to have each band sweepable from 20Hz to 20KHz you can select this option in the **MIXRACK SETUP** / **Mixer Pref** screen.

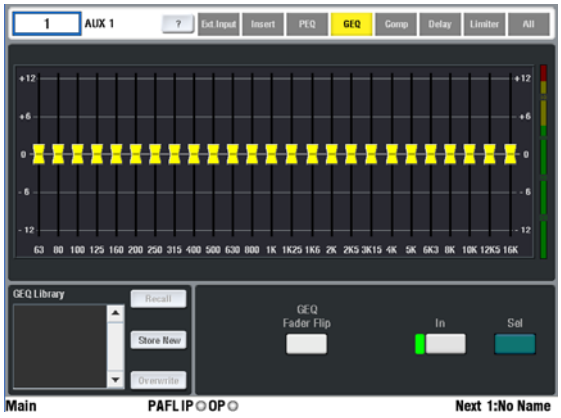
PEQ curve - Touch and drag the boxes on the EQ curve, or touch a parameter box below and use the TouchScreen rotary to adjust its value.

HPF control - The 12dB/octave high pass filter can be switched in or out and its frequency swept using either the PREAMP page or these controls or the filter curve on the PEQ page. The

The Fill option shades the curve to show the effect of each band of the EQ. The curve line displays the net effect of the 4 EQ bands, with the HPF curve overlaid on top. The EQ curve is coloured yellow for EQ in and grey for EQ out.

PEQ Library - As with most of the processing blocks, you can store and name your settings as User Libraries. Libraries are stored within the Show memories but can be archived and transferred to other iLive systems via USB key

LF and HF filter types - Touch to select one of three filter types = shelving, bell or filter.



GEQ (Mix only)

A third octave graphic equaliser is provided for every mix output. This gives you up to 32 GEQs depending on how many mixes you have configured. The GEQ has 25 bands from 63Hz to 16kHz. To access the GEQ touch the GEQ tab or the box in the mix master ALL screen. Touch the screen slider to highlight a frequency band. Use a stylus, finger or the screen encoder to adjust the setting.

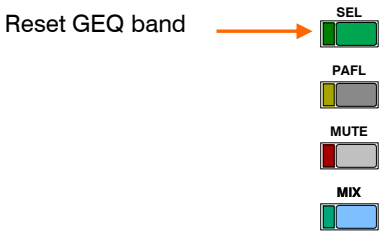
Press the screen **GEQ Fader Flip** button or press the GEQ FADER FLIP key next to the faders while the **SEL** key for the master is active to present the GEQ across the fader banks. Using the faders you can access the GEQ without having to open up its TouchScreen page.

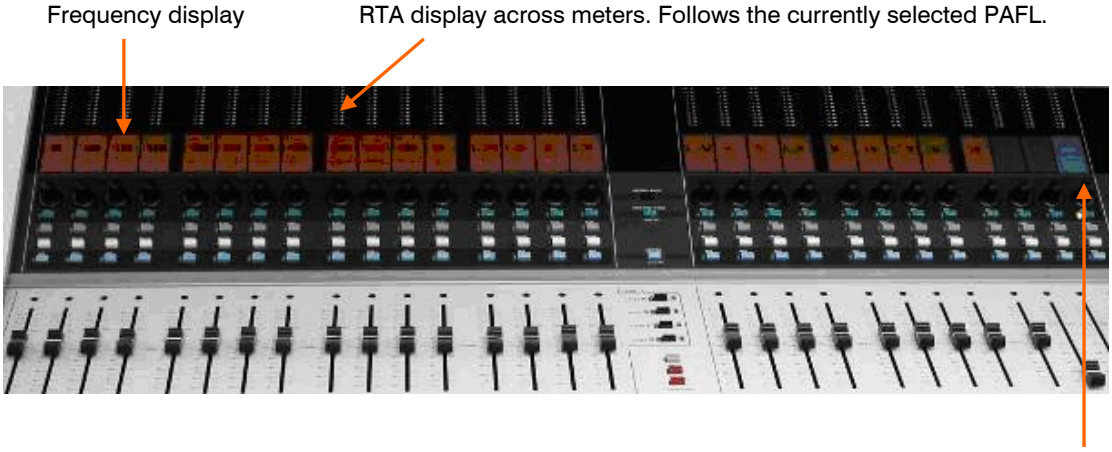
The faders become the cut/boost controls for the frequency bands. The strip on the right becomes the master for the mix so that you can adjust the overall level while adjusting the frequencies. That may present the master fader or a channel send depending on which **MIX** was current when you switched to GEQ fader mode.

The strip LCDs change colour to red and display the frequency for each band. The strip **SEL** keys reset individual bands to their centre '0' position. Their green LEDs turn on when the band is reset to '0'. The RTA is also displayed across the meters while in GEQ faders mode. This follows the current PAFL selection.

Press the screen or fader bay GEQ FADER FLIP key again to toggle back to normal fader view (or to the second or further GEQ layers on the smallest iLive surface).

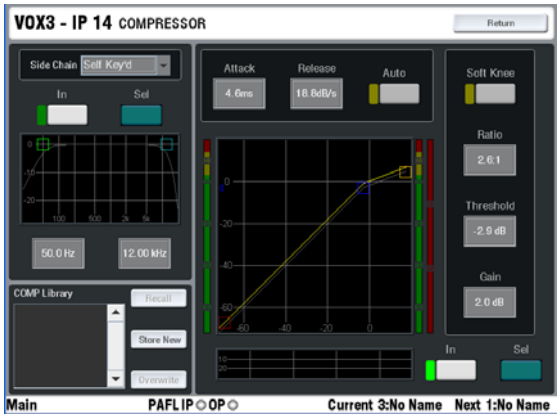
You can store your GEQ settings as user libraries, and use the Surface edit keys to quickly copy and reset settings.





The right hand strip becomes the Mix master. The fader is either the Mix master level or the send from an input channel whose **MIX** key is currently selected.

COMPRESSOR (Channel and Mix)



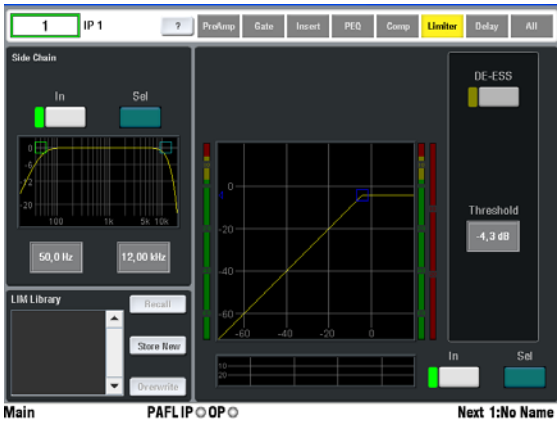
The compressor provides a full set of traditional controls and signal metering as you would find on a top grade outboard processor. A side chain filter which can be self keyed or keyed from one of 7 adjacent channels may be switched in or out. Use the controls or screen to set the threshold (a signal meter displays under the control to help you set this quickly), ratio (how much the signal is compressed), and make-up gain (to compensate for the lower output level after the signal is compressed). Set the make-up gain so that the average signal level is similar whether the compressor is switched in or out. The Soft Knee function changes (softens) the effect of the compressor around the threshold point. The dynamics may be manually adjusted using the attack and release controls or set for Auto function with a drop down menu to select the type of compression required.

The screen provides a graphical view of how the compressor has been set to respond. You can see the point at which the compression starts and how much the signal will be compressed by the steepness of the slope. Below it is a histogram which shows how the compressor has affected the signal over a period of time.

You can store your compressor settings as user libraries, and use the Surface edit keys with the Processing Block or TouchScreen **SEL** keys to quickly copy and reset settings.

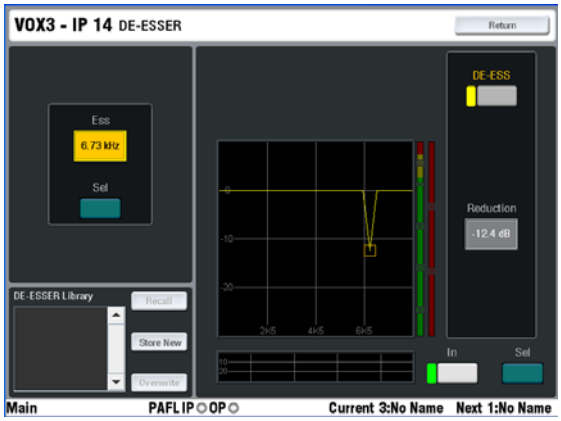
Note: The side chain can only be keyed by itself or one of 8 channels in the **same DSP block**.

LIMITER / DE-ESSER (Limiter on Channel and Mix, De-Esser on Channel only)



This is the last of three dynamics processors available on every input channel. It can be used either as a 'brick wall' limiter to stop the threshold level being exceeded or as a de-esser to filter out the sibilance of a vocal source.

In **limiter mode**, the input signal is superimposed on the threshold display dial for quick setting. The limiter includes a side chain filter for frequency selective limiting, gain reduction and output meters, and a histogram to display how much limiting has taken place over time.



In **de-esser mode** the threshold display becomes a yellow bar rather than a dot and the Threshold control adjusts the amount of de-ess depth (attenuation) at the frequency set. Use the Ess control to adjust the frequency to find and tune out the sibilance. This will vary from voice to voice. The histogram shows the amount of de-essing that has taken place over time.

DELAY (Channel and Mix)

Access the Delay page by touching the DELAY tab in the top view channel processing screen. This shows the delay settings for all inputs so you can check and adjust the values relative to other channels. Touch a box to highlight it, then use the screen rotary control to adjust its value. The rotary has acceleration so you can make big changes by spinning it fast, and fine adjustments by turning it slowly. The Setup tab lets you view the settings as feet, metres or milliseconds. Maximum input channel delay is 170mS, Mix master delay is 340mS.

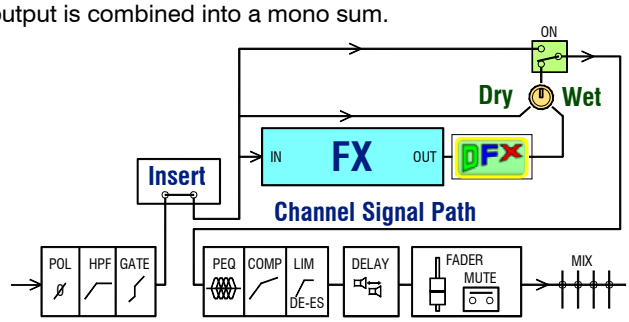
Introducing the FX

The iDR-64 'RackExtra' DSP mix engine provides a virtual 'FX rack' which can be configured with up to 8 processors including reverbs, delays, modulators and more. It also features a host of new routing possibilities for patching FX inputs and outputs and configuring mix/return or inserted FX types.

- Spatial Modelling Reverberator
- Gated Reverb
- 2 Tap Delay
- Automatic Double Tracker
- Chorus
- Flanger
- Symphonic Chorus
- Hypabass Sub-harmonic Synthesis
- 12 Stage Phaser

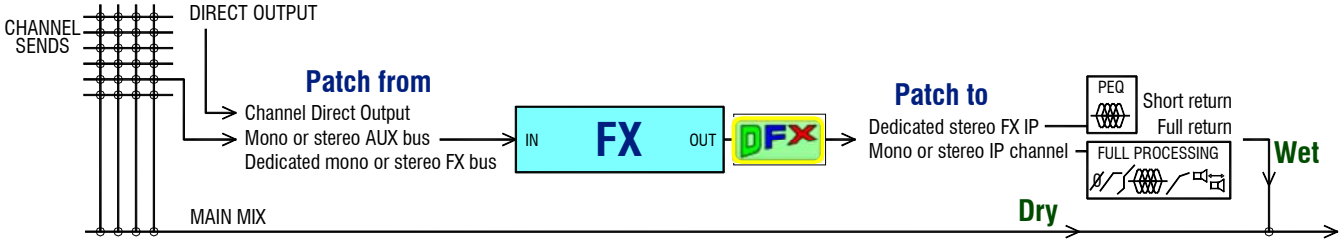
FX Rack A virtual rack with 8 'slots' for loading different types of effects processor. This emulates loading up a typical 8U analogue system outboard rack. The rack is loaded from the library of effects.

Inserted FX You can patch an FX processor into an Input channel, Group, Aux, Main or Matrix signal patch. The effect is in line with the signal and provides an on screen Dry/Wet control to balance between the original and effect signal, and an IN switch to switch the effect in or bypass it. If the FX is patched into a mono channel or mix its stereo output is combined into a mono sum.

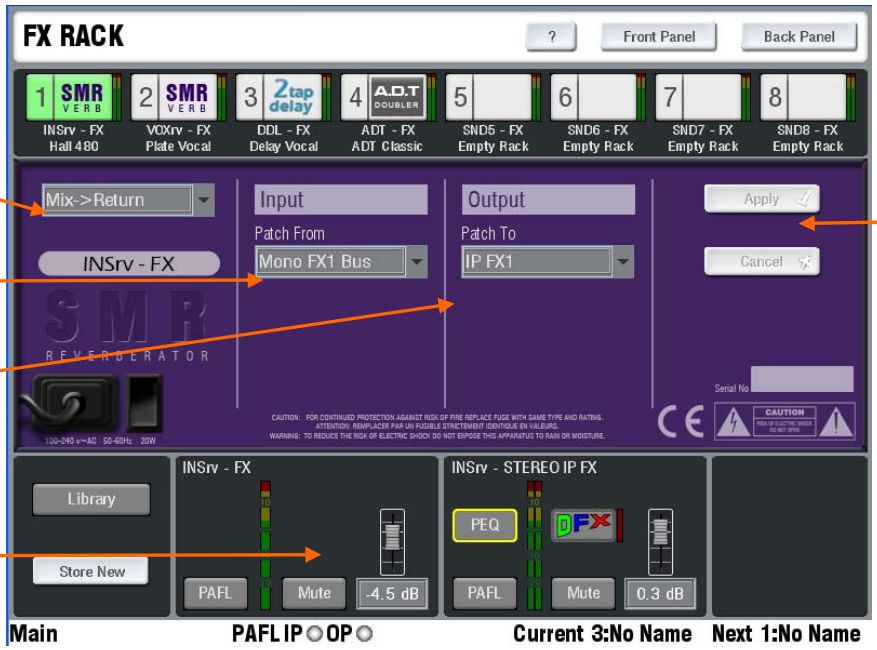


Mix > Return FX This patches the FX as a 'system effect' fed from a mix bus or channel direct output, and returned via a dedicated FX 'short' return or a full input channel. Traditional live sound effects such as reverb and delay would be configured in this way. The FX parameters may be accessed by pressing the strip **SEL** key if it is configured using dedicated FX mix buses or FX short returns. The FX screen provides the associated master send and return controls, access to the PEQ of a short return and the Dynamic effects shaper.

Note: The FX short returns are in addition to the 64 channels available in a single rack iLive system. With 8 FX configured with their dedicated short returns you therefore get a total of **80 channels** equivalent to an analogue system where the effects are returned using two mono channels each. Each short return features a 4-band PEQ, DFX dynamic effects processor, and can be routed to all the mixes.



Back Panel view - Configure the FX routing



FX configuration

Send to the FX (FX input)

Return from the FX (FX output)

Send/Return masters or Wet/Dry controls depending on configuration

Apply the change

Touch the top right Back Panel button to open up the connections view. This emulates patching up a typical outboard effects rack. Configure the FX device as a send/return loop or inserted into a channel or mix signal path.

FX configuration Choose an option from the drop down menu:

Not Assigned The FX is not patched.

Insert The FX is inserted into a channel or mix signal path. Choose type from the list in the drop down menu and number from the box.

The **Dual Mono** mode allows a stereo effects device such as a chorus unit to be used on a stereo keyboard connected into two mono channels as opposed to a stereo channel.

Touch **Apply** to confirm. The lower part of the screen provides the IN (bypass) button, Dry / Wet balance control, and input / output meters for the FX.

Mix>Return This configures the FX as a 'system effect typical of the aux send, channel return loop used in live mixing for reverb and delay effects. Touch Apply to confirm. The lower part of the screen provides the send and return master controls together with input and output metering. Note that these controls are also available on the fader control strips if assigned to them.

Patch from If configured as a Mix>Return FX then use this drop down menu to choose which signal sends to the FX input:

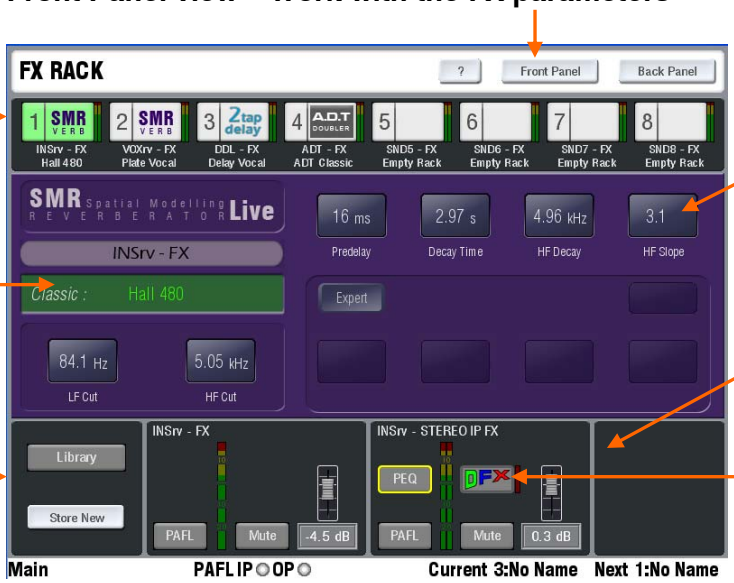
Dedicated FX mix bus
Mono or Stereo Aux mix
Channel Direct Output

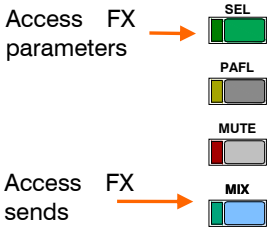
Note: The Direct Output selection follows its global setting configured in the MIXRACK SETUP / Mixer Pref / Direct Output page. As an FX source this would typically be set to Follow Fader and Follow Mute.

Patch to If configured as a Mix>Return FX then use this drop down menu to choose where the return from the FX routes to:

Dedicated stereo FX short return
Mono or stereo full IP channel

Front Panel view – Work with the FX parameters





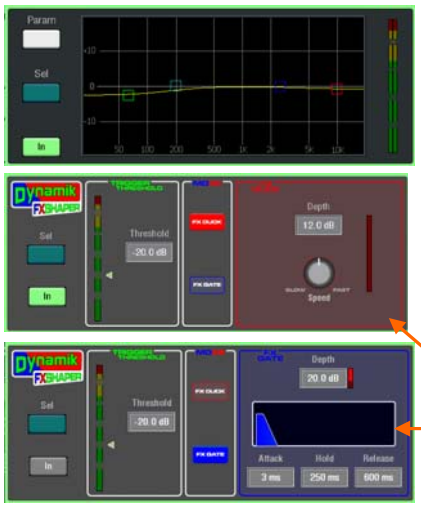
Access FX parameters from the strips Press an FX send master strip **SEL** key, or press an FX short return (IP FX) strip **SEL** key to open up the FX screen. You can adjust the parameters (Front Panel view), configure the routing (Back Panel view) and work with libraries.

Access FX parameters from the TouchScreen Press the **FX** key below the TouchScreen to open up the FX page. Touch one of the 8 numbered boxes across the top to present the FX processor you want to work with. These display FX number, type and user defined name. If the box is blank and labelled as "Empty Rack" then this means an FX processor has not been assigned to this slot. Open up the Library and recall a preset to load the required processor.

Access the FX send mix from the strips Press an FX send master strip **MIX** key to work with the fader (or rotary) view of all the channel sends feeding that effect, or press an input channel strip **MIX** key to work with the sends from that channel to all the mixes.

Access the FX send mix from the TouchScreen With the screen in the **ROUTING** page, press any IP channel, FX return or FX master **SEL** key and select the FX tab to view the related send settings. Touch the screen controls and use the screen rotary to adjust the levels.

FX send and return master screen The lower part of the screen displays the current settings of the FX send and return masters, or Wet/Dry and Bypass controls if the FX is Inserted. You can also access the PEQ or dynamics DFX controller as a popup here. The local level controls let you adjust the master settings from the screen whilst working with the FX parameters.



FX return PEQ - The FX 'short' return channel (addition to the 64 input channels) adds a 4-band PEQ which is accessible on the rotary controls in the channel processing block or a popup in the screen. If you have configured the effect to return through a full channel (part of the 64 channels) then you get all the processing normally associated with an input channel.

Dynamik FX Shaper - The shaper can be used to gate or duck the FX return signal to produce dynamically managed effects contributions.

Duck

Gate

Choose the FX – The FX preset library

Touch the Library button to open up the library list. The presets are grouped into Factory, User and USB.

Factory Default presets that cannot be overwritten, and can be used as the starting point for creating your own presets.

User Edited settings may be named and stored here for future recall. You can transfer these to or from a USB key using the **UTILITY / Configuration / Library Manager** screen.

USB Presets read off a USB memory key so that you can use your favourite settings on other iLive systems without the need to load them as User presets.

Touch the button to open the list you want to choose from. Highlight the preset you want, or use the screen encoder to scroll through the list. These are grouped into FX types:

Reverbs
Delays
Modulators
Sub Harmonics
Gated Verbs

Recall Touch Recall to load the highlighted preset. The effect is loaded instantly together with its associated panel layout as if you had loaded your preferred effects device into your outboard rack.

Overwrite This button becomes available when you highlight an existing user or USB preset. Touch it to overwrite that preset with the current parameter settings. A confirm box pops up to prevent accidental overwriting of your settings.

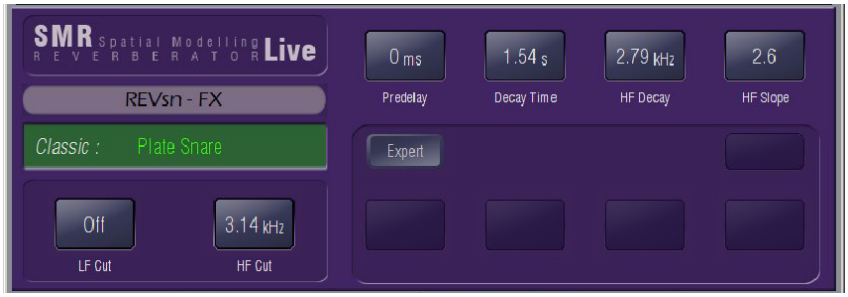
Store New Touch Store New to name and save a new preset. The touch keypad opens. Type in the name. The settings are stored as a new user preset when you enter the name.

Exit Library Touch this button to close the library list and return to the FX Front or Rear panel view.

Arena 1
Arena 2
Chamber Large
Chamber Mid
Chamber Small
EMT + Echo
EMT 250
EMT HF Vocal
EMT Large
EMT Live
Hall 480
Hall 481 Live
Hall 482 Live
Hall Barfoot
Hall Brass
Hall Bright
Hall Choral HF
Hall Drums
Hall Echo
Hall Large
Hall Massive
Hall Natural Small
Hall Small Vocal
Hall Small Stage
Hall Strings
Hall Wide Large
Hall Wide Small
Overheads
Plate Big Echo
Plate Bright
Plate Gold Dly'd
Plate Gold US
Plate Keys Barfoot
Plate Perc
Plate Small Space
Plate Snare
Plate Vocal
Plate Vocal F
Room KickBox
Room Large
Room Live Drums
Room PianoBar
Room Small
Room Speech
Slap Reverse
Slap Verb

Delay 2tap
Delay Brass
Delay Kraftwerk
Delay Perc
Delay Sax
Delay Shimmer
Delay Slap
Delay Stereo
Delay Vocal
Delay Vocal2

Reverbs - SMR



Spatial Modelling Reverberator. These provide high quality stereo reverb effects based around 4 complex spatial models - Classic, Hall, Room and EMT. Each of these models employs different reflection and decay algorithms to provide natural sound spaces.

The SMR provides top layer controls essential in a live mixing situation including 24dB/octave LF and HF filters, pre-delay, decay time, HF decay and HF slope. These are always present on the FX Front Panel view. In addition you can open 'Expert' pages which give you control of many additional parameters for fine tuning the effect.

Delays

These generate separate left and right delay outputs from a mono'd input feed. Individual tap indicators flash at the current tap rates set. Touch a tap button to highlight it and use the screen encoder to adjust its value, or **tap the button** at the rate you want to set the value. Tap Tempo can also be assigned to a **soft key** or **PL Series** remote controller keys.

Delay time can be adjusted from 5ms to 1.36 seconds. You can enter a separate rate for the left and right delays, or you can **link** left and right to work in mono with a single delay time by touching the Link button. The Fine controls let you fine tune the times and set up echoes that are difficult to tap.

Other controls include 24dB/octave variable frequency Filters, Feedback (regeneration) with low pass damping filter, and a stereo width control. Scatter changes the delay pattern between left and right.

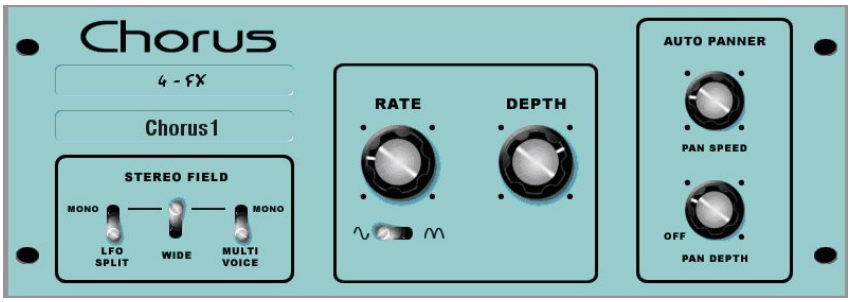
Modulation FX - ADT

ADT 2Trk Vox
ADT Choral Dly
ADT Classic
ADT EkoChorus

The ADT DOUBLER is an automatic double tracking module for creating short echo/chorusing effects, classic double tracking and 'slapback' tape delay loops. It emulates the classic ADT effects that are popular in enhancing sources such as vocals and guitars in live sound mixing. It can also create a subtle stereo sound field that can help produce ambience in a stereo in-ear monitor or recording mix. The algorithm can create stereo double and quad tracked voices from a mono input. Thickness creates flutter modulation in the delay voices. There is also a stereo width enhancer and the tracked voices can be auto panned in the stereo field to further enhance the effect.

Modulation FX - Chorus

Chorus Bright
Chorus Classic
Chorus Deep



This module emulates the classic chorus generators of the late 1980's, through 3 stereo-field emulations. These can be switched in different combinations creating many different stereo fields. All switches up gives no stereo enhancement. The key traditional Rate and Depth controls cover the centre panel. The LFO driving the modulator can be switched sine or rectified to change the sound of the effect. The auto-panning section pans the chorus voices giving stereo level shimmer, another classic modulator effect.

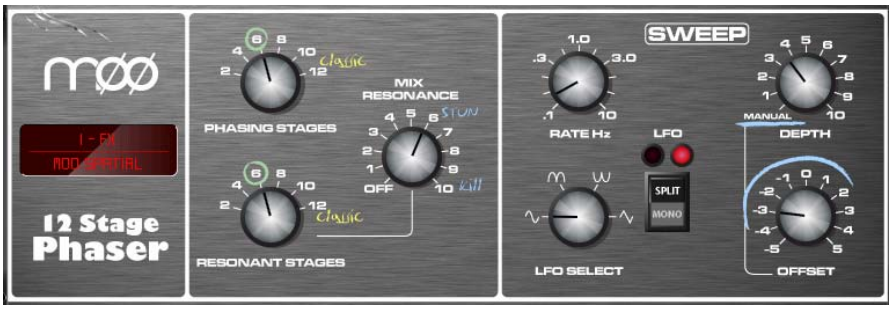
Modulation FX - Flange

Flange Classic
Flange Hard
Flange Jangle
Flange Space

Electric Flange provides 3 classic emulations - 'ambient' a light subtle ambient sound, 'vintage' a classic silky sound from the birth of tape machine flanging and untameable a 'wild' flange. The numerous LFO modulators and stereo splitting techniques found in popular pedal flange effects have been emulated here. For classic deep flange set stereo split and stereo spread off, pick triangular modulation, vintage and adjust the DEPTH and REGENERATE controls. The manual switch overrides the LFO for manual flange sweeps, a feature found only on a few historic flangers.

Modulation FX - MOO Phaser

MOO Classic
MOO Manual
MOO Spatial



A classic 12 stage emulation producing rich textured phasing with plenty of control. The user has control of number of stages, feed forward and feed back, and 'zero' depth manual mode – to manually sweep the Phaser using the offset control. The classic characteristic sound is produced by careful emulation of the phase chain and operating frequency range around the offset control. Equally important is the emulation of harmonic signatures produced by the companded analogue delay lines, producing rich harmonics adding thickness to the sound. The split/mono LFO switch toggles between in-phase intense phasing and split-phase mode - creating spatial rotary effects. There are many different possibilities through varying the number of stages in the phase chain output or the feedback resonance path. Setup depends on the instrument applied to the unit. Lower numbers produce clean thin sounds. A higher number of stages produce a richer phasing sound.

Phasing Stages control Selects which point in the phase chain is taken as output. 6 stages produce a clean phase. However the classic rich sound is 12 stages.

Resonant Stages control Select which point of the phase chain is taken into the feedback 'mix resonance' circuit. 12 Stages is classic.

Mix Resonance control Controls the amount of feedback into the phase chain input. Classic sound around 5 - 8. Full resonance at 10.

LFO Rate control Variable between 0.1 to 10Hz

LFO Select switch Sine / Rectified / Inverse Rectified / Linear(Triangular) are selectable. Classic unit uses Linear(Triangular). Slow Phasing sounds great with Sine. Rectified variants can create notches or phase spikes which can sound cool. Rectified variants are twice the speed.

LFO split switch 'Mono' setting configures the Left and Right Phase Chains to modulate in phase – the strongest effect. 'Split Phase' runs Left and Right not in Phase, creating a stereo swirl for added spatial rotary effect.

Depth control Controls the amount or depth of LFO modulation in phase chain. Extreme settings can sound unnatural. Setting this control to minimum turns the LFO modulator off and relies on manual sweeping of the phase chain using the 'offset' control.

Offset control Shifts the operating frequency range of the Phaser. Maximum settings force the Phaser to operate in higher frequencies. Lower Offset settings allow lower frequency phase sweeps (more intense). In manual mode (Depth = 0) the user can adjust the phase sound with this control.

Preset Name is displayed on the lower column of the Red display. Touch and scroll for live update. This is a way of live auditioning all library presets for this module (factory, user and USB). Settings are recalled live as you spin the rotary. For spot controlled changes to a particular preset use library recall.

Rack Send Name (input source) is displayed on the top column of the Red display.

Hypabass

Beware Infra
Lost Fundamental

A sub-harmonic synthesis unit classically used in the live sound environment to generate infra and sub bass spectrum from weaker bass programme. We initially emulated the American analog classic, but implementation in DSP gave us the ability to use more sophisticated techniques in the sub harmonic generator and filtering stages. The result is reduced distortion in the infra bass section and much better independent control of the infra and sub bass spectrum – essential for live PA use. The module is stereo in stereo out (with software normalised mono input if source is mono). The stereo signal remains stereo throughout the signal path. There is no mono'ing to produce either the infra or sub bass path.

Note - **BEWARE** - Extreme care is needed. Driving high infra bass levels into insufficient speakers may lead to speaker equipment damage.

Hypabass is a sub harmonic synthesis module. An LF input de-emphasis/emphasis trim stage feeds the sub harmonic generator creating low distortion, low frequency spectrum below the source input spectrum. This sub harmonic spectrum is then band-split into Infra Bass (18-36Hz) and Sub Bass (36 Hz upwards). This allows Infra and Sub bass to have separate level controls, essential for controlling 'Infra Bass' and 'Sub Bass' preventing speaker equipment damage, and dealing with resonant acoustics or speaker resonance with exotic LF cabinet porting. Separate Infra Bass and Sub Bass meters are provided. Each are peak detected from both Left and Right signal paths and presented on one meter.

UPPER FREQ CUT Controls the upper bandwidth of the sub bass harmonic spectrum. This setting depends greatly on the sub bass speaker equipment and the original bass content. Typically a low setting is common to prevent the generated sub bass upper harmonics clashing with the original bass content. Beyond mid position is only useful for Lost Fundamental mode.

LF INPUT BOOST This filter stage provides emphasis on the input spectrum into the sub harmonic generator and can be used as a global 'more or less' control once everything else is setup.

INFRA BASS Mode This is the default mode. Energy in the Infra and Sub bass spectral regions is synthesised from the input bass content. Using the independent level controls the engineer can balance Infra and Sub bass.

Note - Avoid infra bass damaging equipment or sub bass resonating. UPPER FREQ CUT needs to be kept low to prevent the generated sub bass upper harmonics clashing with the original bass content.

LOST FUNDAMENTAL Mode These harmonics can be output to a mid range driver to create apparent bass energy since these upper harmonics are musically related to the original bass content. Useful for increasing bass perception in music driving mid range speaker systems. This turns the Infra bass section off and modifies the output spectrum to operate in the typical upper bass region. Using the Sub level and UPPER FREQ CUT the engineer can manipulate the output to contain harmonics that are above the input bass spectrum.

Gated Verb

Gate Echo
Gate RevPan
Gate Short
Gated Big Pan
Gated Drum Big
Gated Drums Sml
Gated Kick
Gated Rev
Gated Snare
Gated Vocal

'Gated Verb' hosts the classic 80's emulation plus 'panned' and 'powerbox' gated reverb presets. The user interface gives instant access to lo-cut hi-cut decay spectrum filters and the gate envelope controls. We depart from the 80's and provide a visual representation of the gate time domain envelope helping the engineer 'see' the sound effect. Also included are mono, stereo and wide imaging options and decay diffusion.

Classic Nonlinear - emulates the faithful 80's classic gated reverb. Even left and right distribution with de-correlated and diffuse reverb.
Panner - rapid panning between Left/Right in the reverb, creates short time movement effects.
Powerbox - maximum power in gated energy, not as de-correlated as classic non-linear.

Lo Cut 20Hz - 6 KHz, 24dB/octave filter to control decay spectrum
Hi Cut 400Hz – 20KHz, 12dB/octave filter to control decay spectrum
0 - 170ms adjustable pre-delay prior to attack starting
Attack, Hold, Release Time period for gate to open, remain open, and close
Maximum open gate length (attack + hold + release) = 500ms.
Mono/Stereo/Wide - option to set field output image.
Diffusion - from 'clear' (low diffusion) to 'rich' (highly diffused)

Empty rack

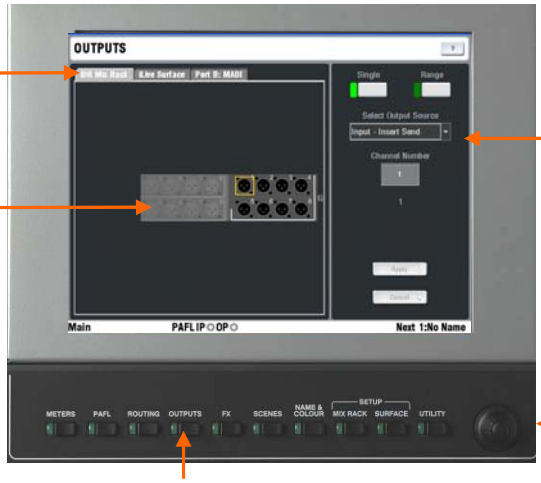
Recalling the 'Empty Rack' from the Library removes the current FX type loaded. The screen displays a space as if a unit had been removed from a traditional outboard rack. Recall a library preset to load in another FX device.

Patching the Outputs

Press the **OUTPUTS** key below the TouchScreen to access the output routing patch bays. These virtual patch panels display the physical and digital audio network output sockets recognised by the system and let you route any signal to any output.

Tabs to select patch bay

Touch the socket or scroll through the available network channels

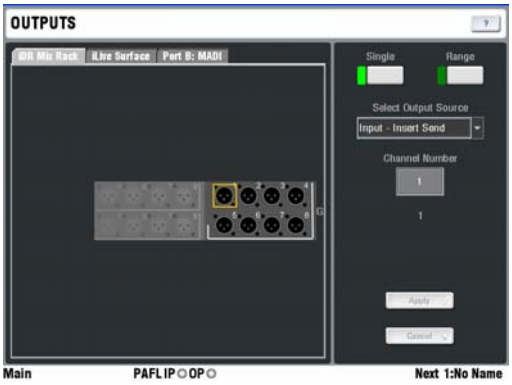


Choose the signal to send to the socket:

Not Patched
Mono or stereo Mix
Mix Bus Out
Input Direct Out
MixRack Input
Port A/B source
PAFL monitor
Wedge monitor
IEM monitor

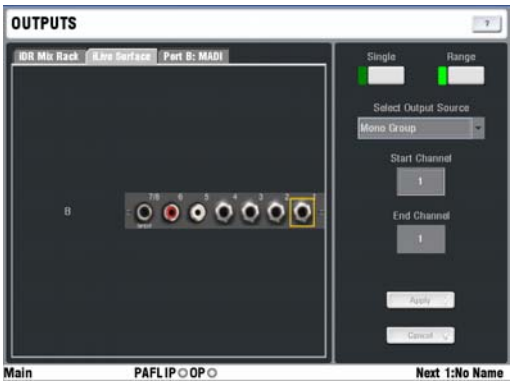
Use the screen rotary to scroll through the channels.

OUTPUTS

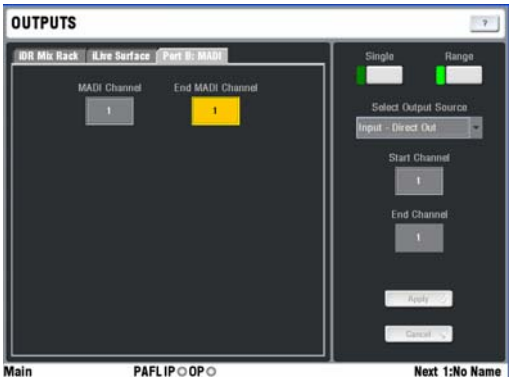


MixRack The tab displays the user name assigned to the MixRack. The system identifies the outputs available at the MixRack and displays a physical socket view. Touch a socket to view its current assignment. Choose a source from the drop down menu, highlight the Channel Number box and use the encoder to scroll through the channel numbers. Touch **Apply** to confirm.

Work with a **Single** or a **Range** of sockets. For a range, touch the first then the last. Enter the Source type, Start and End channel numbers. Touch **Apply** to confirm.



Surface The tab displays the user name assigned to the Surface. The system identifies the outputs available at the Surface. Choose a source from the drop down menu, highlight the Channel Number box and use the encoder to scroll through the channel numbers. Touch **Apply** to confirm.



Port A This tab is available if a suitable iLive audio network option is fitted. You can assign outputs to channels 33 to 62. Channels 1 to 32 are reserved to transport audio from the MixRack to the Surface audio module slots A to D. Channels 63, 64 transport the PAFL monitor signal from the MixRack to the Surface.

Port B This tab is available if a network option card is fitted to Port B. You can assign outputs to Port B channels 1 to 64. Select Single or Range assignment.

Output Sources The user assigned name is displayed below the channel number. If a channel is not available a red cross appears.

Note: If sockets have been assigned as INSERT Sends then they are not available to be assigned using the OUTPUTS page. To re-use the socket, first unassign it using the INSERT screen associated with that input or mix.

Choose the Source from:

Not Patched The socket is unassigned. No signal present.

Mono or Stereo Group Post processing, post fader Group mix output.

Mono or Stereo Aux Post processing, post fader Aux mix output.

Main Post processing, post fader Main mix output. The channel number ranges from 1 to 4 and depends on the main mix currently configured, for example LCRSub type 1=L, 2=R, 3=C, 4=Sub.

Mono or Stereo Matrix Post processing, post fader Matrix mix output.

Input Direct Output From the assigned channel number. The direct output source is globally set in the **MIXRACK / Mixer Pref / Direct Output** page. You can choose the point in the signal path and whether it follows the channel MUTE and FADER functions. It is common to assign channel direct outputs to multitrack inputs when recording a live show typically set Post Preamp.

MixRack inputs This routes the output of the MixRack input preamps directly to the output sockets. The signal is sourced just after the ADC converter and before the channel processing. For example, use these sources to provide a digital mic splitter via Port B for FOH/Monitor mixing, or to record directly off the mic preamps.

Bus Outs Assign the pre fader, pre processing mix signals to the sockets. For example, use these sources when linking two systems together to expand the number of inputs feeding the mix.

Port A / B sources Assign signals directly from the Port A or B digital audio network options to the sockets. For example, route the Main mix from the FOH system to sockets on the Monitor System Rack over a Port B split.

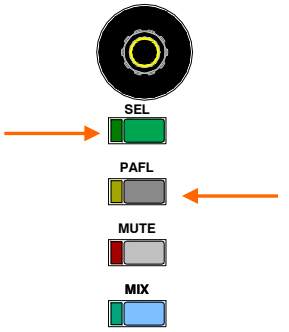
PAFL L/R Output from the system stereo PAFL monitor. Assign to a pair of MixRack sockets to connect to the Surface headphones/local monitor system using analogue cables when an iLive system does not have the Port A option fitted. The rear of the iLive Surface provides analogue monitor input sockets for this purpose. These are not available on the T Series.

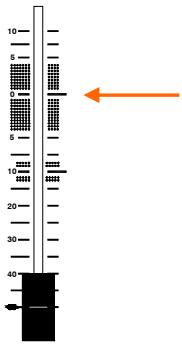
Mono or Stereo Wedge / IEM Routes PAFL monitor signals controlled by Wedge or IEM master strips to the sockets. Used for the monitor application.

Using DCA (and MUTE) groups

iLive provides 16 DCA groups. These behave in a similar way to conventional analogue console VCA groups. You may assign as many of these as you choose to the Surface strips. The DCA master fader does not physically move the assigned channel faders. Instead, it adjusts the levels at the channel fader point in the same familiar way as traditional VCA mixing. iLive lets you assign any combination of input channels and mix masters to one or more DCA groups. This lets you create multiple nested DCA grouping for complex mixing applications if required. DCA groups can also be set to operate as Mute Groups without the master fader affecting the levels.

DCA master





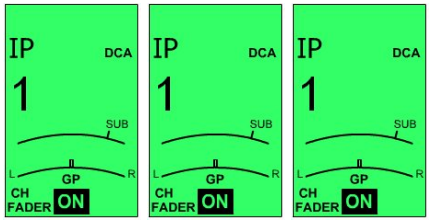
ASSIGN channels or mix masters to the DCA group using the DCA master **SEL** screen, channel **ROUTING** screens, or the DCA master **MIX** key ASSIGN function. If a channel is assigned to one or more DCA groups then its 'DCA' icon turns on.

DCA master fader For normal operation set the DCA master fader to its unity '0' position. At this position the assigned channel levels are not affected. Adjustments are made relative to this position.

PAFL key Sends a mix of all the signals assigned to the DCA group to the headphones/local monitor system. The AFL function lets you listen to the post fader stereo 'in-place' contribution of the group of signals to the mix. PFL lets you quickly check a group of signals for presence or problems before bringing up the faders.

MUTE key Muting the DCA master mutes all assigned channels. This remotely actions the channel mutes. All sends from those channels are muted.

Note: The channel LCD 'DCA' icons flash to indicate DCA muting. The red MUTE indicators on channels muted by the DCA master do not light. This separates indication of manual and DCA muting. The T and R Series include dedicated DCA MUTE LED indicators below each strip LCD window.



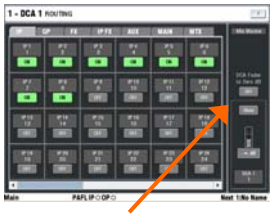
On = channel assigned to one or more DCA groups.

Flashing = channel muted by one or more DCA masters.

Note: If you remove DCA masters from the strips first check that you have unassigned all channels from them or left their master faders at the '0' unity position. This prevents problems with 'losing' channel signals if the master faders of the removed DCA groups are down.

Use DCA master MUTE key as the mute group master

Select the option to set the DCA master fader at '0' position.



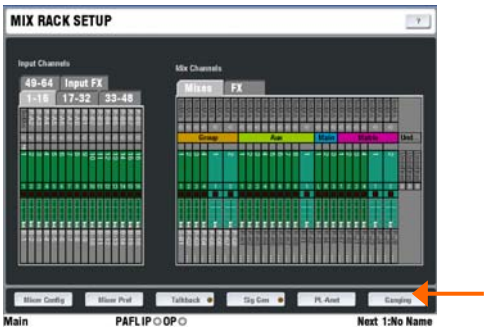
Creating Mute Groups

You can use a DCA group as a Mute group by selecting an option to set its fader to the unity '0' position. In the **ROUTING** screen for the DCA you can force the DCA fader to 0dB by turning on the **DCA Fader to Zero dB** key. Assign channels to the group in the usual way. Use the master MUTE key to mute the assigned channels.

The **SoftKeys** to the right of the TouchScreen and **PL Series** remote controller keys can be assigned as DCA group Mutes. This means that, once assigned, you can 'bury' these DCA master strips on a layer you do not use very often and then use the SoftKeys as your Mute Group masters.

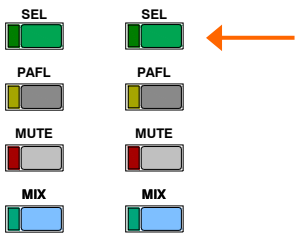
Channel Ganging

Ganging lets you link selected processing and mix parameters between input channels or masters, for example the EQ, gate and compressor of a stereo keyboard, or the GEQ of the L and R main mix. iLive lets you create up to **8 gangs** with up to **8 channels** in each. Ganging does not include the input Preamp (Gain).



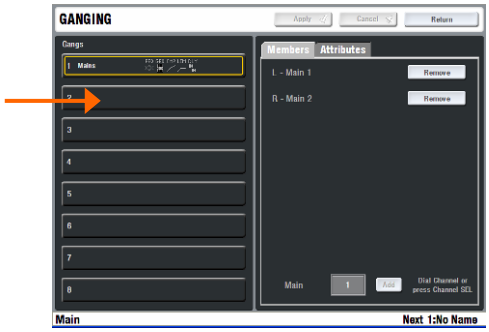
Note: Although you can configure stereo channels, Ganging is the preferred method for linking channels when mixing live. Creating and removing gangs can be carried out quickly 'on the fly' while mixing. However, configuring stereo channels using the **MIXRACK SETUP / Mixer Config** screen resets the DSP architecture, takes a while to complete, and should only be used for setting up 'permanent' stereo channels, for example walk-in music players and external effects returns.

Creating a channel gang



To enter Ganging Setup mode and view and assign ganged input or mix master channel parameters, select the TouchScreen **MIXRACK / Ganging** page.

Ganged channels must be compatible input or mix types. Up to 8 gangs can be assigned with up to 8 channels each. The parameters available to be ganged are known as the 'Attributes'. These include processing such as EQ and dynamics, delay, routing levels and assignments and mutes.



Touch a numbered Gang box in the left hand pane. Press the **SEL** key on the first channel strip you want to gang. Now touch the screen **Attributes** tab and highlight the parameters you want to gang. Touch Apply to accept the changes. Press the **SEL** keys for the other channels you want to add to the gang.

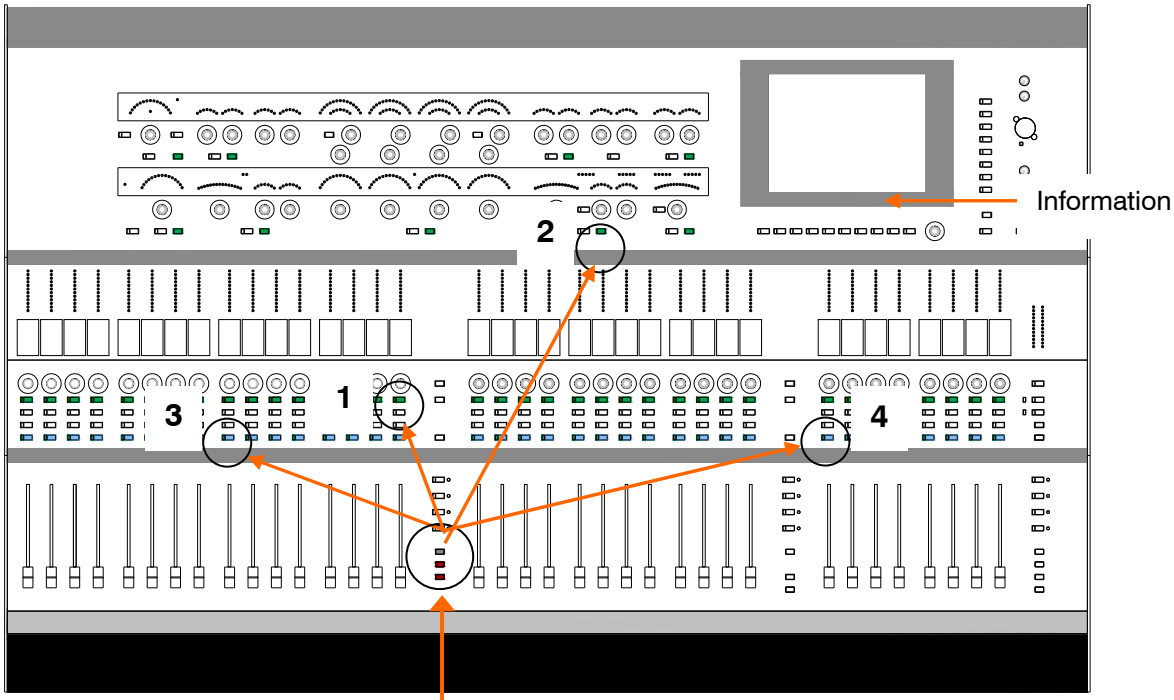
The channels currently ganged are shown in the **Members** tab and on the related fader strip **SEL** keys. To remove gangs use the strip **SEL** keys or the Remove buttons in the Members tab.

Note: Do not leave the screen in the Ganging page. To restore normal operation of the strip **SEL** keys make sure you exit the Ganging setup screen.

Application tip: Hiding channels in ganged pairs. If you have ganged a pair of channels, for example all parameters except Pan for a stereo keyboard, you could assign just one to a Surface or Editor strip. This would save strips and enable you to adjust the fader, mute and parameters using just the one strip. However, the Preamp Gain cannot be ganged. You could duplicate both channels on a fader Layer you are not using to be able to access the Preamp for both sides of the stereo pair during sound check.

Using the COPY / PASTE /RESET edit keys

iLive provides a quick and intuitive edit function to copy or reset settings between channels, processing blocks and mixes. This uses dedicated edit keys on the Surface rather than complex screen menus.



iLive-144 Surface

T-80 Surface

COPY / PASTE / RESET keys These functions are protected from accidental operation. Pressing one of these keys by itself does nothing. The edit function is actioned only if the key is first held down and then a **SEL** or **MIX** key elsewhere on the surface is pressed while it is held.

The lower toolbar of the TouchScreen displays information about the edit operation, for example what is currently held on the clipboard, or whether an action is valid or not.

You can copy or reset **whole channels** or **selected blocks** of parameters, for example setting up all the processing for a vocal channel as a starting point and then copying it to other vocal channels. You can work with just one block of parameters, for example to copy a Compressor across a range of instrument channels.

You can copy or reset a **whole mix** or the mix parameters of **just one channel**, for example as a starting point for several in-ear monitors.

Note: When using the edit keys make sure the TouchScreen is in normal mixing mode, not in MIXRACK, SURFACE or NAME&COLOUR mode. These modes take over the function of the strip **SEL** keys.

COPY Hold down COPY then press the **SEL** or **MIX** key associated with the parameters you want to copy. This puts the parameters on to a 'clipboard' to be pasted later. Hold with:

1 Channel or mix **SEL** key – Copies all the processing associated with the channel.

Note: **The input PREAMP gain, pad and 48V settings are not copied**. The physical input is independent of the channel and may be associated with other channels too.

2 Processing block **SEL** key – Copies just the parameters associated with the selected block, for example a PEQ or Gate. To copy the GEQ touch the screen **SEL** button while holding down COPY.

3 PREAMP screen Gain section **SEL** button – Copies just the analogue head amp Gain, Pad and 48V settings.

4 PREAMP screen Trim section **SEL** button – Copies just the channel Trim and Polarity settings.

5 Channel **MIX** key – Copies the mix settings of one channel to another including the send levels, stereo send image, assignments and pre/post settings. Does not copy the fader and mute settings.

6 Output master **MIX** key – Copies the whole mix from one mix to another including all channel send levels, stereo send image, assignments, pre/post settings and global send source.

PASTE Hold down PASTE. The lower toolbar of the TouchScreen displays information about the parameters currently held on the clipboard. You can only paste like for like information. The screen warns you when the operation is not valid. You can paste the parameters to multiple channels or mixes. While holding down PASTE, press:

Strip **SEL** key to paste the whole or partial parameters held on the clipboard,

Strip **MIX** key to paste the whole or channel mix parameters held on the clipboard.

RESET Hold down RESET and then press a strip or processing block **SEL** or **MIX** key to reset its associated parameters to factory default, for example PEQ or GEQ flat.

Note: **Resetting a MIX affects its assignments and send levels only**. It does not change the Pre/Post settings, Source selection or Mute status.

Reset parameters

Group mix = All assignments off

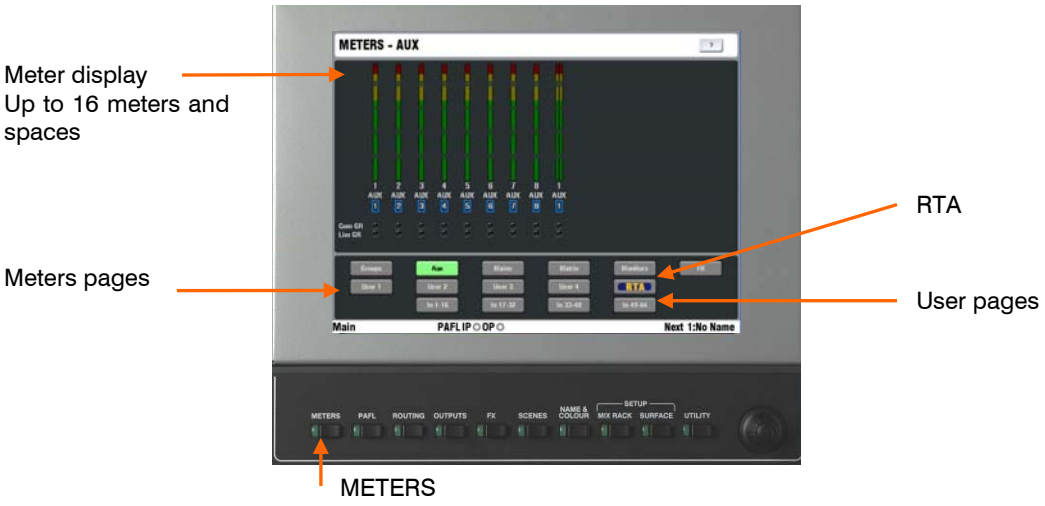
Aux mix = All ON, Send levels down

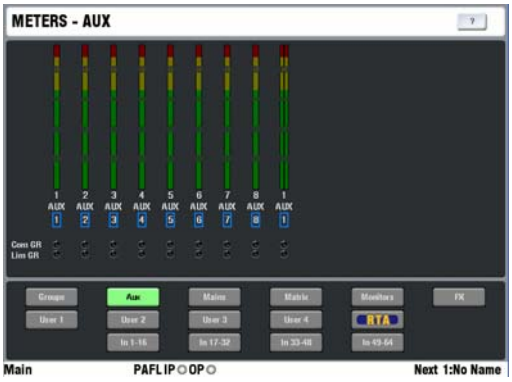
Main mix = All ON, Pan centre, Faders down

Matrix = All ON, Send levels down

The METERS screen

Press the **METERS** key below the TouchScreen to view pages of audio meters. You can configure and view up to 4 'User' meter pages. The RTA frequency analysis display is available within this view. The User meters and RTA are also accessible on the Status page for convenience while mixing live. These meters views are in addition to the extensive physical metering provided on the iLive Surface.



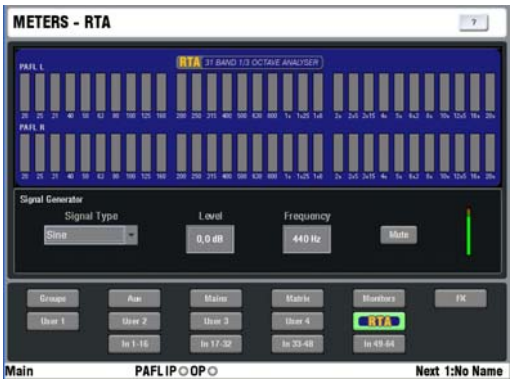


Standard meter views Touch a button in the lower part of the screen to view a channel, mix master, FX or matrix meter page. The page can display up to 16 meters including associated Gate, Compressor and Limiter gain reduction status indication.

Pressing the **METERS** key always returns to the meters page last viewed.

User meter views Touch one of the 4 User buttons to open up a user definable meters view. These can be named and customised to suit your application and mix configuration.

Touch the Customise button at the top right of the screen to design your meter page. Add meters from the tabs displayed. You can insert spaces between groups of meters and delete meters from the view. Touch Apply to confirm the edit.

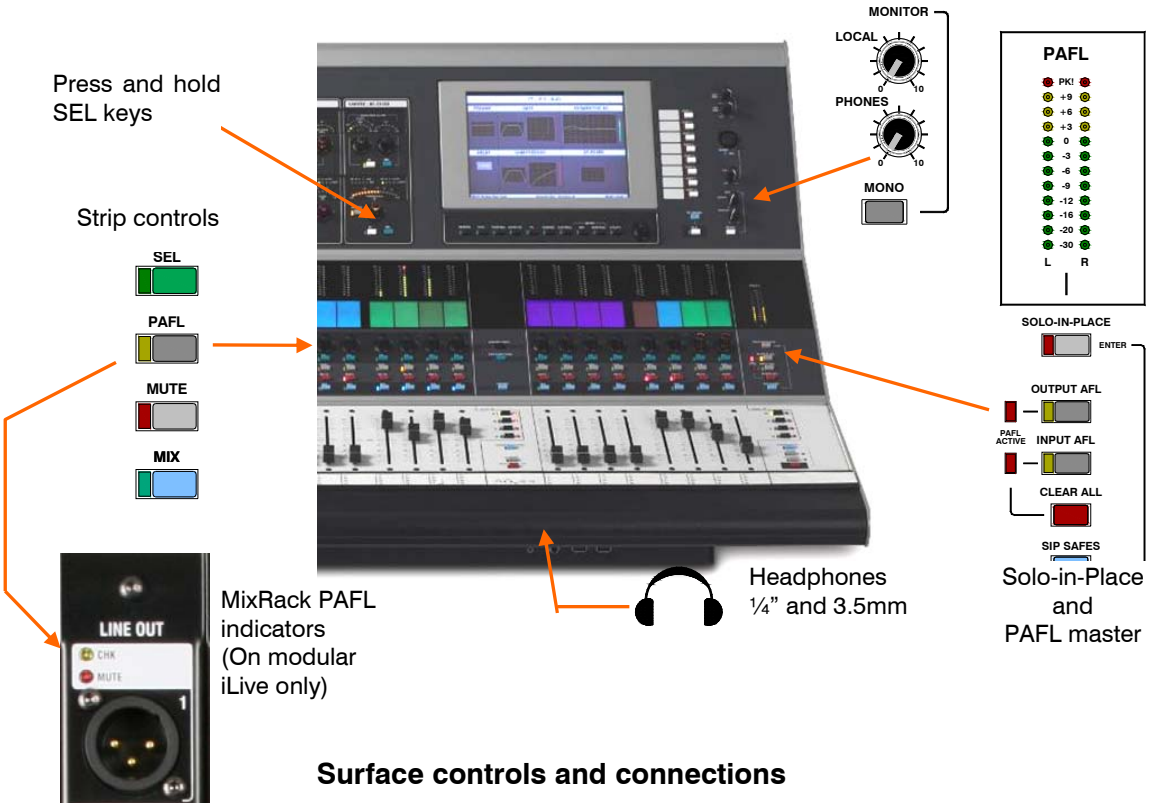


RTA display iLive features a built in RTA (Real Time Analyser) which displays a frequency analysis of signals monitored using the PAFL system. This is displayed as a third octave meters view accessed from the METERS or STATUS screens, or shown across the Surface strip meters in GEQ on faders mode.

An **RTA Peak Band indication** can be turned on to highlight in red the dominant frequency. This can help identify problem or feedback frequencies. Use the **SURFACE SETUP / Preferences** screen to select this option.

PAFL monitor system

iLive features a comprehensive engineer's monitoring system with headphones and local monitor outputs available at the Surface, and headphones duplicated at the MixRack. The audio anywhere in the signal path can be listened to using these monitor outputs, and checked on the dedicated PAFL meters. Dedicated Surface and TouchScreen controls and user preferences let you configure the monitor system the way you want to work. For a dedicated Monitor mixing application you can assign Surface strips as the engineer's Wedge and IEM monitor masters.



Surface controls and connections

PAFL keys Each fader control strip includes a PAFL key. Press this to check the signal associated with the strip. Depending on the setting of the PFL/AFL master keys, you can check the signal before the fader (PFL) or after the fader (AFL).

The yellow indicator next to the key lights when PAFL is active. Yellow CHK indicators next to the associated sockets on the iLive audio modules also light (not available on fixed format iLive). This is very useful in helping you or the stage technician checking the patching of the sockets or when troubleshooting troublesome sources such as radio mics.

The strip **SEL** and/or **MIX** keys can be linked to the PAFL key operation. For more information on this refer to the TouchScreen PAFL Functions page later in this section.

Input channel PAFL overrides Mix master PAFL. This means you can listen to a monitor mix using an Aux master PAFL, then check an input source by pressing its channel PAFL. Releasing the channel PAFL restores the Aux master PAFL.

Processing block SEL key Listen function Press and hold any **SEL** key in the processing control section for more than ½ second to send the audio at that point in the signal path to the monitor. For example, you can press the PREAMP **SEL** key to check the signal before the EQ and dynamics, and then the COMPRESSOR **SEL** key to listen to the effect after compression. You can also listen to the side chain signal affecting a gate or compressor.

PFL/AFL mode keys Master keys to the right of the strips select the function of the PAFL keys to be **PFL** (pre-fade listen) or **AFL** (after-fade listen). Signals are monitored in mono or stereo depending on their configuration. AFL is pre-mute so you can check it before sending it, and 'stereo in-place' so you can check it after the pan and image controls. The function can be set independently for the input channels and mix master outputs. Normal setting is PFL for the inputs (check the signals before you bring up the faders), and AFL for the outputs (check the signals being sent from the console). For the iLive R72 these keys are accessed on the Touch Screen.

PAFL meters Displays the level of the selected PAFL source. Separate meters for the left and right signals of a stereo source. Mono signals are displayed equally on both meters.

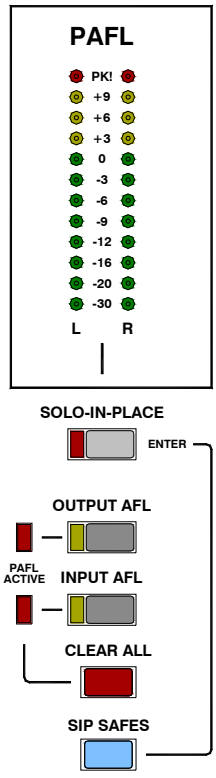
PAFL active indicators These light when one or more PAFL keys are selected. There are separate indicators for active input or output.

CLEAR ALL key Press to clear the current PAFL selections. If both a channel PAFL and a mix master PAFL are active, then press once to clear the channel PAFL and twice to also clear the master PAFL.

PHONES level control Adjusts the level of the monitored signal in the engineer's headphones.

LOCAL level control Adjusts the level of the monitored signal sent to the Surface rear panel LOCAL MONITOR outputs.

MONO switch Sums left and right signals in the headphones and local monitor outputs. This is not available on the iLive-R72 Surface.



PHONES sockets Two headphones sockets are provided at the front of the iLive Surface under the armrest, or on the right hand side of the T Series Surface. One is a standard ¼", the other a 3.5mm mini-jack ideal for plugging in a headset or ear piece equipped with the smaller jack. Both may be plugged at the same time.

LOCAL MONITOR output A pair of balanced, line level XLR connections on the rear of the modular iLive Surface, or TRS jacks on the rear of the fixed format iLive lets you connect an amplifier or powered speakers as a local monitor.

Solo-in-Place (SIP)

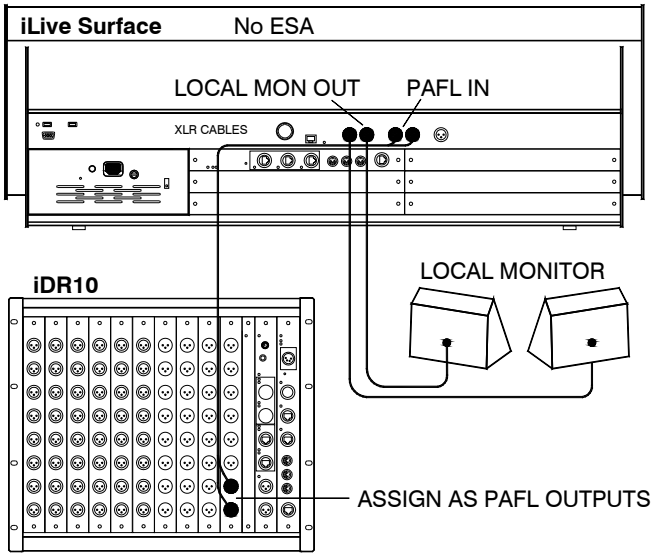
The iLive SIP system lets you listen to the contribution of single channels in the main mix by muting all other channels. It does this using the channel MUTE keys.

SIP is protected from accidental operation while mixing live by requiring a two key press to enter the SIP mode. Hold down the blue **SIP SAFES** key and then press SIP. To exit SIP mode simply press SIP.

To make selected input channels and masters safe from SIP so that they are not muted when a channel is soloed, hold down the **SIP SAFES** key and press the associated strip **MIX** keys. The strip LCD SAFE icon displays for channels made safe while in SIP mode. It is typical to make the main mix, monitor and FX sends and FX returns safe in this way. Press CLEAR ALL to clear the SIP selection while in this mode.

Note: SIP is known as 'destructive' as it affects the main FOH mix. It is intended for use during rehearsal or sound check only. For standard signal monitoring use the system PAFL function.

PAFL IN sockets This pair of balanced, line level XLR inputs on the rear of the modular iLive Surface lets you add an external signal to the PAFL mix. Two applications are:



If you are not using Port A to provide audio at the surface you can use analogue connections to route the PAFL signal from the MixRack to the Surface. Assign the PAFL mix to a pair of XLR sockets on the MixRack using the OUTPUTS screen. Plug XLR cables from the MixRack to the Surface PAFL in sockets. The PAFL signal now feeds the Surface headphones and local monitor system.

Add an external signal to the PAFL mix to mix in with the system PAFL transported via ESA. For example, you could add a monitor loop from an in-ear rack, or comms from an external location. Use line level signals. This signal is always present in the Surface headphones and local monitor.

Note: The Surface PAFL meter reads the system PAFL mix only. External non-PAFL signals will be heard in the Surface headphones and local monitor but not read on the PAFL meters.

Note: You can also use the Ext In to PAFL feature to add an external signal to the PAFL system. This is accessed using the **PAFL** screen.

MixRack controls and connections

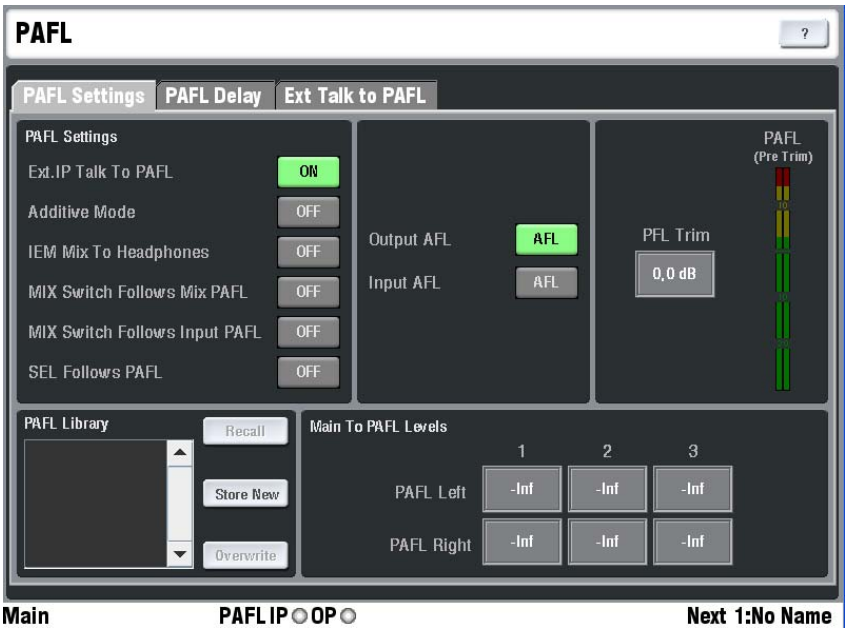
The MixRack includes a headphones amp which duplicates the PAFL signal checked at the Surface. This is useful in letting the stage technician hear the same signal being checked by the FOH engineer at the Surface, or when you are using a laptop instead of a Surface.

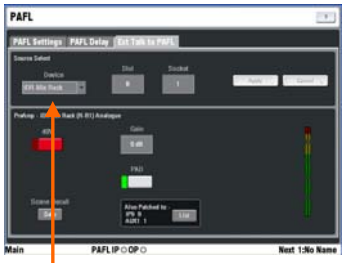
PHONES level control Adjusts the level of the monitored signal in the MixRack headphones feed.

PHONES socket Standard ¼" socket for stereo headphones.

CHK indicators Each socket on the audio modules fitted to the iDR10 MixRack and iLive Surface have a CHK indicator which lights when its associated channel PAFL is active. Two light if the channel is stereo. If an insert has been assigned to the channel then its send and return socket CHK indicators light too. This is helpful in identifying which sockets are associated with a channel, for example when working with the stage technician checking the patching. This feature is not available for the fixed format (T and R Series).

TouchScreen PAFL functions





MixRack input
Surface input
Port A source
Port B source
Surface Talkback mic

Press the TouchScreen **PAFL** key to open a page of option settings for the PAFL monitoring system. Set these according to your preferred way of working. These settings are retained on power down.

Ext IP Talk to PAFL Turns on or off the source assigned for external talkback into the PAFL monitor. Open the **Ext Talk to PAFL** page to assign the source. Use the drop down menu to choose the source. This facility lets you set up a reverse talkback path, for example to let the monitor engineer talk to the FOH engineer through the PAFL headphones.

Additive Mode Default operation is **auto-cancel** mode where pressing one PAFL key cancels the previous selection. With the Additive Mode button selected the operating mode changes so that PAFL selections sum together.

IEM Mix to Headphones If you have assigned a Surface strip as the engineer's IEM master for a monitor application, you can configure the system headphones monitor to follow the IEM master.

MIX switch follow Mix PAFL In this mode, pressing a fader strip PAFL key automatically selects the associated mix master **MIX** key and therefore opens up the associated mix on the faders / encoders / LCDs. This can be a quick way of working letting you adjust the mix sends, assignments and settings as you listen to each master.

MIX switch follow Input PAFL Provides a similar link function for the Input channel **MIX** keys to follow PAFL presses.

SEL follow PAFL In this mode, pressing a fader strip PAFL key automatically selects the associated **SEL** key and therefore opens up the associated channel processing. This is convenient when you are using PAFL to check the channel signals and want to adjust their parameters at the same time. In this mode pressing **SEL** does not action the associated PAFL.

PFL trim Lets you adjust the balance between PFL and AFL monitoring in situations where the average AFL level is much quieter than PFL. Touch the PFL Trim box and use the screen encoder to attenuate the level by up to 12dB.

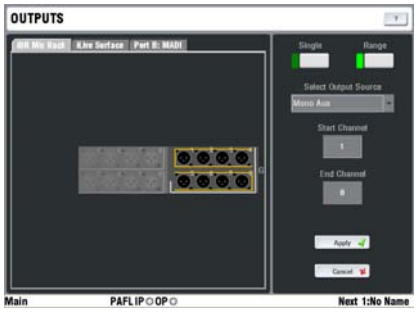
Main to PAFL Levels Touch these boxes and turn the screen rotary encoder to set the level of the main mix heard in the PAFL monitor when no PAFL is active. If you want the monitor to be quiet when PAFL is inactive then set them to –inf (off). You can save your Main to PAFL levels as user libraries to recall your preferred settings later or transfer them via USB key.

Engineer's Wedge / IEM monitoring

The iLive is capable of being configured for dedicated monitor mixing. It can provide an engineer's dual Wedge/IEM facility for monitor mixing with combinations of stage wedge speakers and in-ear monitors. This lets you assign mono or stereo Wedge and/or IEM masters strips on the Surface. Mixes sent to the stage wedges can be monitored in just the engineer's Wedge output, and mixes sent to the in-ear systems can be checked using just the IEM output. Both these outputs use the same stereo PAFL mix, but their mutes can be assigned to ensure the signal appears only at the wanted output. This provides the equivalent of a top end monitor console dual listen function.

Assign Wedge and IEM master strips Use the **SURFACE / Strip Setup** screen to assign one fader strip as a mono or stereo Wedge master, and another as a mono or stereo IEM master.

If you want full processing including GEQ and dynamics on the engineer's outputs then make sure this is configured in the **MIXRACK / Mix Config screen**. This will use up some of the 32 DSP mix channels. Only configure this processing if your application really needs it.



Patch the masters to sockets use the **OUTPUTS** screen to patch the Wedge and IEM outputs to sockets on either the MixRack or Surface. Plug these into your monitoring system.

Assign mixes to the dual monitors Select the **MIX** key on the Wedge master strip. Hold down the ASSIGN key and press the Aux master **MIX** keys to assign the wedge mixes. Do the same to assign the Auxes used for IEM mixes to the IEM master strip. Make sure you turn off the Wedge/IEM strip **MIX** keys when you have finished assigning the mixes.

The dual monitor system uses just the one stereo PAFL bus. It works by muting the monitor output not required.

Pressing PAFL on a mix master assigned to the **Wedge** monitor will automatically **MUTE** the IEM monitor output. Pressing PAFL on a mix master assigned to the **IEM** monitor will automatically **MUTE** the Wedge monitor output. Pressing PAFL on any input or mix master not assigned to either the Wedge or IEM master will result in the signal not affecting the mute status of the outputs. It is usual to leave the input channels unassigned.

Note: You can unmute the Wedge or IEM master at any time to listen to any PAFL signal in any output.

Other monitor application features:

Auto input PAFL override mix PAFL

Dual press PAFL CLEAR ALL

MIX and **SEL** key follow PAFL

SoftKey assign as PAFL/**MIX**/**SEL** combo

RTA follow PAFL

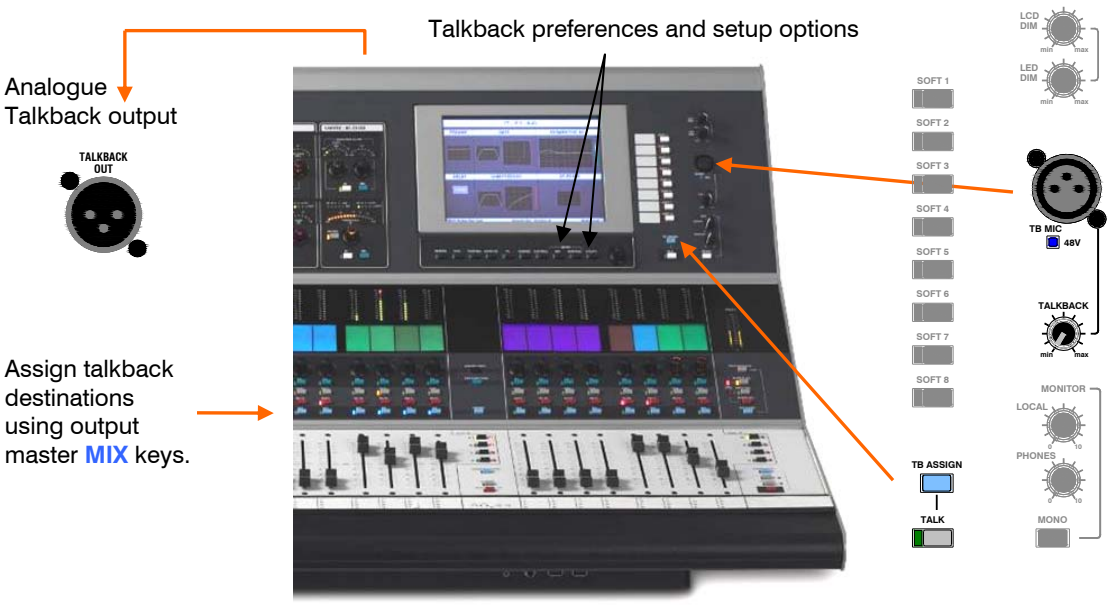
Aux mixing on faders

Configure any number of mono or stereo Auxes

Full processing and GEQ on every mix

Talkback system

iLive provides a fully featured engineer's Talkback system. This uses dedicated Talk keys and is quick to assign to the outputs without the need to access screen menus. The Surface has a built-in Talkback microphone input which can link to the MixRack via the Port A digital audio network or an analogue connection (iLive only). There are several options for setting up the system the way you want to work.



TB MIC input Balanced microphone level input. Plug in a wired handheld or gooseneck microphone. If phantom power is required use a pointed object to press in the recessed 48V switch. To avoid thumps make sure the microphone is not live to its destinations when switching phantom power.

TALKBACK level Adjust the gain of the talkback mic. Start at minimum.

TALKBACK OUT socket (Only on the modular iLive) Rear panel line level balanced XLR to patch the talkback signal into the MixRack using an analogue connection when the Port A option is not fitted.

TALK key Press this key to talk to the destinations currently assigned. Use the **SURFACE SETUP** / **Preferences** screen to set either **momentary** (hold down to talk) or **latching** (press to turn on, press again to turn off). Latching operation may be preferred if you are using a handheld mic with built-in switch.

Note: The signal generator is disabled to that destination if Talkback is active.

Note: The Talkback Mic input on the surface can be used as an input source to a channel so it can be used in system setup if required.

Assigning Talkback using the MIX keys

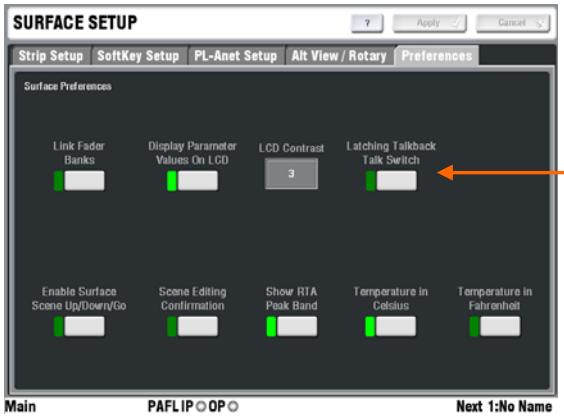
Hold down the **TB ASSIGN** key, then press the **MIX** keys on the fader strips of the output masters you wish to talk to. This assigns the destinations. Press these keys to toggle the assignments on or off. The **MIX** key blue indicators light to display the current talkback destinations while the TB ASSIGN key is held down.

Note: You can change the talkback assignments while the TALK key is active. Hold down the TB ASSIGN key and tap the output master **MIX** keys while talking to quickly change destinations.

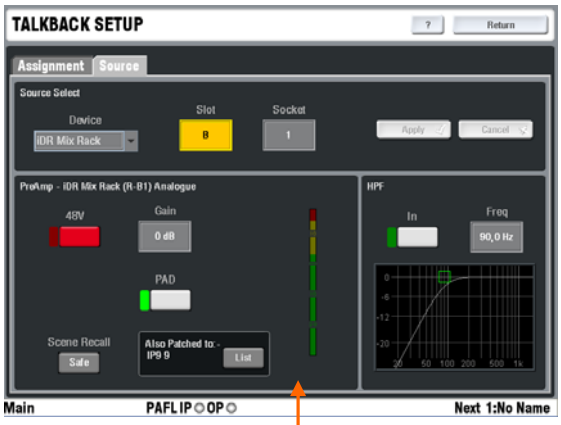
Assigning Talkback using the TouchScreen

Go to the **MIXRACK SETUP** / **Talkback** / **Assignment** page. Use the touch buttons to assign talkback to your chosen outputs.

Talkback setup and preferences



TALK key action Select either momentary (push to talk) or latching (using a switched mic) operation. Go to **the SURFACE SETUP / Preferences** page. Set the Latching Talkback Talk Switch option.



The lower part of the Source page provides access to the Talkback **HP F**ilter as well as preamp settings and meter if a MIC/LINE input has been selected, or the digital trim and meter if a digital input has been selected. Use these to set the Talkback level.

Talkback Source Choose the source for the Talkback system from the drop down menu in the **MIXRACK SETUP / Talkback / Source** page.

Unassigned No source. The Talkback system is not used.

Surface Talkback Selects the Surface built-in TB MIC input (default).

iDR MixRack Choose from any of the available input sockets on the MixRack. Choose the slot (position) and socket number (one of 8). You would use one of these inputs if you wanted to plug your talkback microphone directly into the MixRack, or if you were transporting your iLive Surface Talkback signal to the MixRack using the analogue rather than Port A (EtherSound) connection.

iLive Surface Choose from any of the available input sockets in the rear of the Surface.

Port A Choose a remote source via Port A option.

Port B Choose a remote source via Port B option.

Communication between FOH and Monitor systems

iLive presents many possibilities for arranging communication between the FOH and stage positions in a dual console application. Signals can be transported between the systems using the Port B digital audio link, and mapped to mixes and sockets at either end. For example:

FOH talk to musicians on stage Use the Surface Talkback system. Plug in a switched handheld microphone and choose the latched TALK switch preference. Assign TB to a spare FOH Aux mix. Route that Aux via Port B and assign it to a channel on the Monitor system. This becomes the FOH to stage talkback enabled at FOH using the TALK switch.

FOH talk to monitor engineer Assign the same Surface Talkback mic as the Ext Input source to another spare mix (Do not use TB assign as above). Route that mix via Port B to the Monitor system and select it as the Ext Talk to PAFL source on that system. This becomes the FOH talk to monitor when the handheld mic is switched on. It is not affected by the FOH TALK switch which can be turned off when the engineers want to talk to each other and not the musicians.

Monitor talk to FOH engineer Similarly, the Monitor Surface Talkback can be assigned to Port B and selected as the Ext Talk to PAFL at the FOH console. These signals can also be mapped to available output sockets if you want to use independent local loudspeakers for engineer communication.

SoftKeys

8 SoftKeys to the right of the TouchScreen can be assigned to different functions to suit your application. For example, you could use them as MUTE GROUP masters, to recall Scene memories, quickly access processing or mix parameters of a certain channel or master, send a MIDI message and more.

Working with Mute Groups Although **iLive** does not have dedicated Mute Groups it does feature no less than 16 DCA groups. Some of these could be configured as Mute groups simply by setting the Set to Zero dB option in the DCA master **ROUTING** screen. Assign channels to the group in the usual way and use the group master MUTE switch to control the Mute Group. For example, DCA 1 to 8 could be used as true DCA groups for level control, while DCA 9 to 16 could be used as Mute groups with just switch control. These DCA master strips could be assigned to a seldom used layer on the Surface for Mute group assignment only. The master Mutes can be operated using the **Soft Keys** or **PL Series remotes** giving you instant access to control your eight Mute groups.

To find out more about assigning the SoftKey refer to the section on Surface Setup later in this guide.

PL-Anet remote control

PL-Anet is the proprietary Allen & Heath RS485 based serial control network for connecting combinations of PL Series remote controllers to **iLive**. Use standard CAT5 cables to connect PL Series controllers to the **iLive** PL-Anet port either at the Surface or the MixRack. Make sure the last PL controller has the end of line terminator plugged into its output socket. For more information on using PL-Anet refer to the user guide that comes with the controller.

Refer to the Allen & Heath web site for information on the range of PL remote control devices available.

PL-6 The 8 faders can be assigned to control levels. The faders are not motorised. You can set an option to allow the fader to 'pick up' the current level, or for the level to jump to the fader setting as soon as it is moved.

PL-10 This has 8 rotary controls instead of faders. As they are endless turn encoders with LED bars they always indicate and follow the current levels and therefore make the PL-10 better suited than the PL-6 in providing simultaneous control alongside the Surface.

Note: Only connect PL Series devices to the PL-Anet port. DC voltage is present that may damage network and other devices if connected.

MIDI

MIDI IN, OUT and THRU connections are available at both the MixRack and Surface. MIDI is tunnelled via the Ethernet control connection between the MixRack and Surface which means devices may be connected at either end.

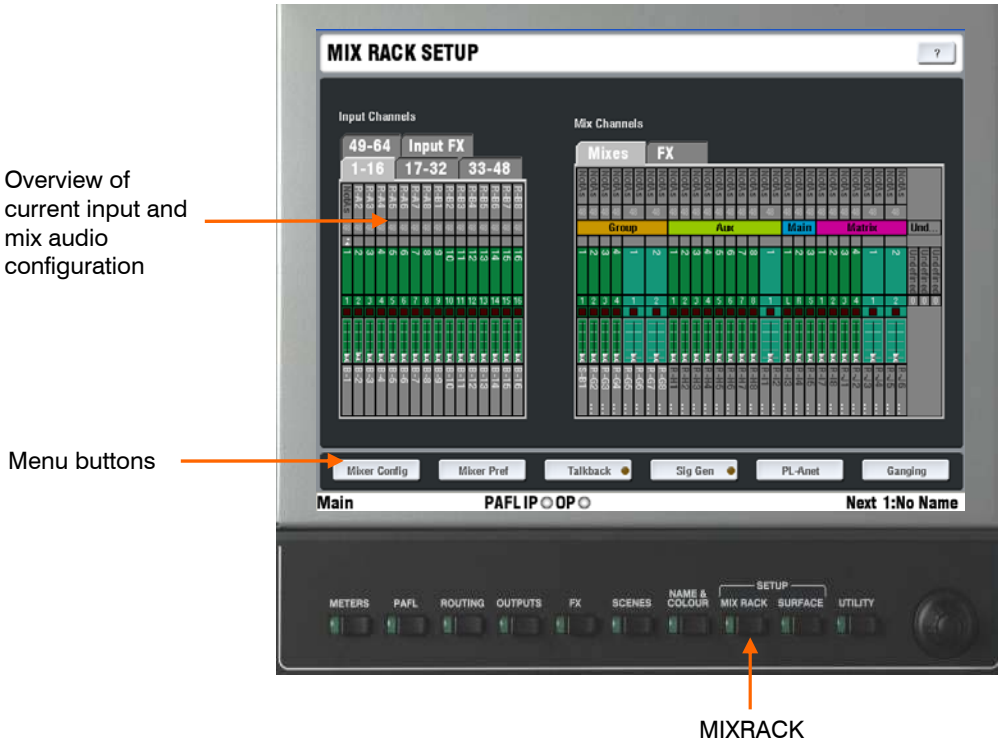
Go to the **UTILITY** / **Configuration** / **MIDI** page to set the MIDI channel number and access the MMC transport controls. You can also assign SoftKeys and PL device controls to transmit custom MIDI message strings. For the full MIDI implementation refer to the MIDI Specification later in this guide.

MIXRACK setup

The MixRack is the heart of the system and features a 64 channel x 32 mix bus audio architecture that is fully configurable by the user. Once configured you can map the channels and masters to the Surface strips and layers in any combination. You can also name and colour these so that the Surface strip LCDs provide a visual coding that makes it very quick and easy to work with your mix. This means that you can 'design' your own mixer to suit your application and preferred way of working. Once configured you can archive your settings as Scene and Show memories for future use or transfer to other iLive and T Series systems.

This section explains the configuration of the MixRack, the DSP 'mix engine'. The 64 input channels may be configured as mono or stereo. This emulates the design of a traditional analogue console where a certain number of stereo channels are provided for sources such as CD and sound effects players, effects returns and audio for video. You can choose how many stereo channels you want. The 32 mix buses may be configured into a traditional and very familiar architecture of mono or stereo Groups, Auxes, Main mix and Matrix. The advantage offered by iLive is that you can choose how many of each type of mix you configure as long as the total number does not exceed 32. You can even configure the Main mix from a list of different types such as M, LR, LCR, LRSub and more. For example you may want to set the system up for FOH operation one day, and dedicated Monitor the next. The FOH configuration can include a combination of Groups, Auxes, up to 4way Main mix and a large number of Matrix feeds. On the other hand, the Monitor configuration may comprise mostly mono and stereo Auxes and no Main mix or Matrix. Both of these applications can be easily configured and stored.

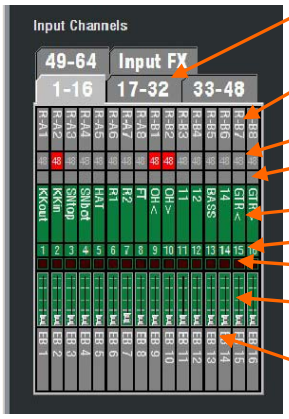
To access the MixRack audio configuration press the **MIXRACK SETUP** key below the TouchScreen.



Note: It is not intended that the MixRack configuration is changed 'on the fly' during a sound check or performance. Plan and configure this before you start your application. Changing the configuration makes big changes to the DSP architecture of the system and resets the mix parameters. iLive has plenty of buses so you should be able to configure enough in your standard setup to satisfy your most demanding application without the need to reconfigure part way through.

Note: Changing the configuration resets channel and mix parameters. If you want to keep your current settings you should save all parameters to a Scene memory first before changing the configuration. Recall this Scene to restore the parameters after the configuration change.

Top screen We refer to this as the 'radar view' as it provides an overview of the current system configuration. Use the menu buttons to access and change the configuration and other MixRack setup functions.



Input Channels view Tabs let you access all 64 input channels and the FX short returns.

Input source 'R-B3' means MixRack slot B socket 3. 'EB 6' means EtherSound ESB channel 6.

48V displays phantom power status.

Insert displays if an insert has been assigned.

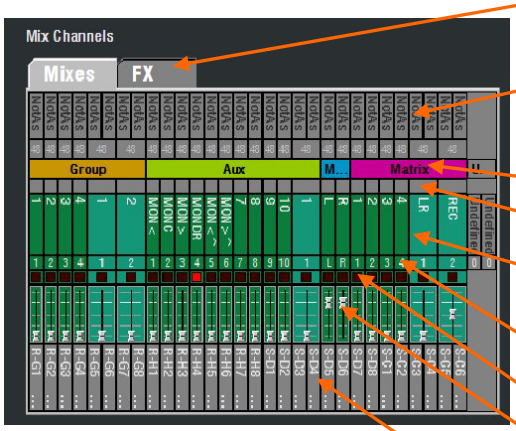
Name User defined 5 character channel name.

Channel number DSP channel 1 to 64.

Mute displays the channel mute status.

Faders show the current channel level settings.

Direct Output routing shows the output sockets associated with the direct outputs. If the output is routed to more than one socket a '…' is displayed. Touch that part of the screen to toggle to the other sockets assigned.



Mix Channels view Tabs let you view the current status of the 32 mix buses and 8 internal FX buses.

External Input source 'NotAs' means a socket has not been assigned as the external input. 'S-C5' means Surface slot C socket 5. 'EA 36' means EtherSound ESA channel 36.

Type displays the type of mix configured.

Insert Displays if an insert has been assigned.

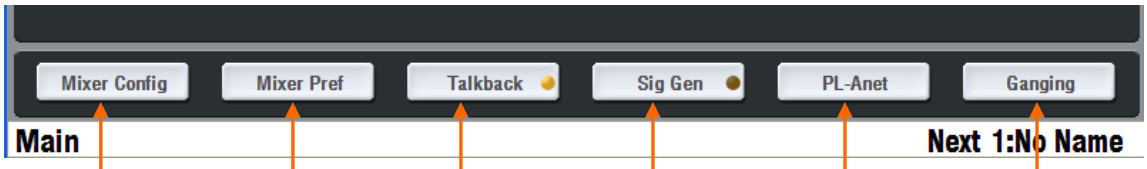
Name User defined 5 character mix name. The background colour indicates mono or stereo mixes configured.

Mix number sequence for each mix type.

Mute displays the mix mute status.

Faders show the current channel level settings.

Mix Output routing shows the output sockets associated with the mix outputs. If the output is routed to more than one socket a '…' is displayed. Touch that part of the screen to toggle to the other sockets assigned.



Configure the audio bus architecture and stereo input channels

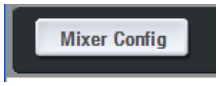
Configure the global options and the digital audio network settings.

Configure the Talkback assignments and source.

Access the onboard signal generator to route test signals to the mixes.

Configure connected PL device control functions.

Assign input channel and mix master gangs to link processing and mix parameters.



Mixer Config page This screen lets you change the mono/stereo configuration of the input channels, and the architecture of the mix buses.

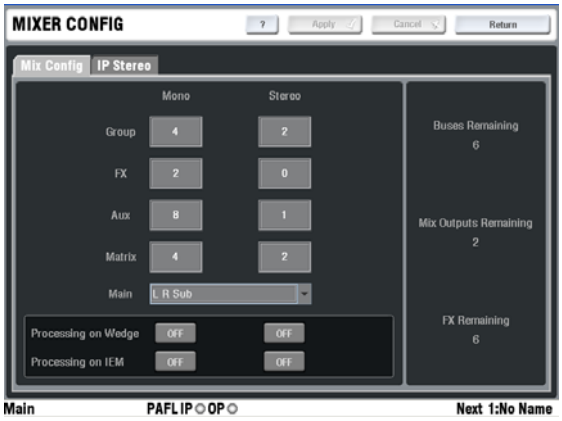
Note: Changing these settings reconfigures the DSP architecture and resets parameters. This can take up to 2 minutes to complete and is not intended for 'on the fly' changes while live mixing. Set this up before you start preparing for your show. Access to the Mix Configuration can be locked out by setting Permissions for a guest user. To do this go to the **UTILITY / Configuration / Edit User Profiles** page. Store your parameter settings as a Scene before changing to recall after you have changed your configuration.

IP Stereo Displays the current mono/stereo configuration of the 64 input channels. Stereo channels are highlighted in green. Touch the buttons to change the configuration. Related odd/even pairs can be set as stereo.

This is intended for permanently configuring some channels as stereo inputs for an application, for example CD and SFX players. Stereo channels use a single fader control strip each.

Touch Apply to accept the changes. A popup box lets you confirm the reconfiguration.

Note: Use the Ganging function for on the fly linking of channels for stereo sources while mixing live. Gangs are set up using the **MIXRACK SETUP / Ganging** page.



This part of the screen displays the number of buses, FX and mix outputs remaining. If you exceed the maximum then a **red cross** is displayed. Reduce the number if this occurs.

Mixer Config Displays the current DSP mix bus architecture. Touch boxes display and let you change the number of each type of mono and stereo mix, the type of Main mix, and whether to provide processing for the engineer's Wedge or IEM monitor outputs.

To change the configuration touch a box to highlight it, then use the screen rotary encoder to increase or decrease the number.

FX Up to 8 internal FX rack devices.

Buses Excluding the Matrix, up to 30 buses may be configured as mono or stereo Groups, Auxes, FX and Main mix. The remaining 2 buses are allocated to the system PAFL monitor. Note that the FX buses and short returns are dedicated to their related FX number.

Mix Outputs Up to 32 mix outputs may be configured. These are the masters that provide full processing including GEQ and can be patched to the physical output sockets. They include the Groups, Auxes, Main mix and Matrix but do not include the internal FX as these are not routed to the sockets. Stereo mixes use a single fader control strip each.

Main mix Use the drop down menu to select the main mix type you want. You can have no main mix, for example if you are configuring a Monitor console. The main mix may be up to 4way.

Processing on Wedge/IEM For monitor mixing applications you can allocate output processing (EQ, dynamics) to the engineers monitor outputs.

The Main Mix

iLive features a choice of many different configurations of main mix from mono to 4way and with different types of image control. Note that due to the DSP architecture the buses are always allocated in pairs. Therefore a main mono 'M' mix uses two buses, a 3way LCR mix uses four buses. The main mix masters always use one strip per output. Therefore an LR mix uses two fader strips, a 4way LCRSub mix uses four fader strips.

Main mix types

None Preferred if the system is configured as a dedicated Monitor console typically with plenty of Auxes but no Main mix. In this case turning off an Aux master strip **MIX** key reverts the faders to being channel and mix masters with no assignments or pan function in view.

M Single bus mono main mix.

LR Traditional stereo mix with left/right PAN function per channel.

LRSub A unique 3way main mix that provides 3 master faders and a dual control channel imaging system which lets you dial in the amount of sub level using a dedicated control per channel. Innovated by Allen & Heath, it is a new and more convenient way of mixing with separate sub bass feed than the popular 'Aux Fed Sub' method. The rotary encoder becomes the PAN control. Its shifted function is the SUB level control. Note that the SUB output is full frequency range. Crossover processing is done typically using manufacturer specific speaker system controllers.

LRM Similar to the above 3way mix but substituting 'M' for 'SUB'. This provides a convenient third output for driving a mono fill speaker.

LCR Traditional 3way LCR panning where the channel PAN control moves the signal from left, through centre to right speakers.

LCRSub A 4way main mix with traditional 3way LCR panning and dedicated SUB feed. The shifted function of the strip encoder provides the sub level control.

LCRM Similar to the above but substituting 'M' for 'SUB'.

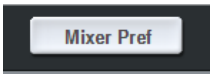
LCRPlus A 3way LCR main mix pioneered by Allen & Heath. This provides two image controls, PAN to position the signal between the L and R speakers, and BLEND to position the signal between the LR speakers and C (centre).

Radio LRM A special case 3way (left, right and mono) mix where the function of the **MIX** keys on the channel strips act only as mix on/off switches for radio broadcast applications. All mixes are switched on/off by the mix key ensuring unwanted channels are removed from the main mix and cleanfeed or effects mixes too.

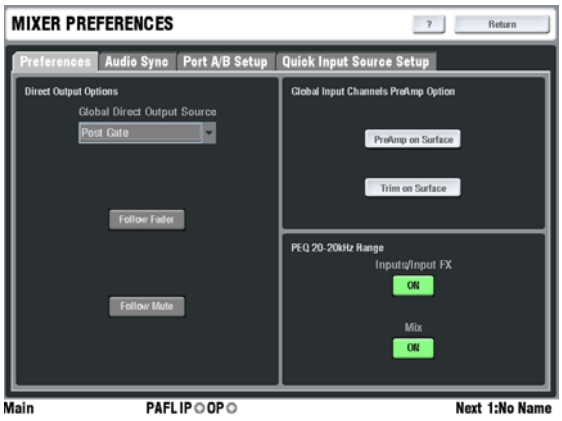
Accepting the changes First ensure that you have stored the parameter settings you want to keep as a Scene memory to recall after the configuration change. Touch **Apply** to accept the changes you have made. A popup box appears to let you confirm or escape from the changes.

Surface strip assignments Having made changes to your input and mix bus configuration you may need to map your new inputs and masters to the fader control strips across the four layers. Use the **SURFACE SETUP** screen to do this.

Storing your configuration You can save your configuration and system setup as a Show memory to use again in the future. This can be transferred between iLive systems or archived to your PC via USB memory key. To access the Show memories go to the **UTILITY** / **Configuration** / **Show Manager** page.



Mixer Preferences page This page lets you set the source to the input channel direct outputs globally, the global input channel preamp setting and PEQ frequency ranges.



Global Direct Output Source Open the drop down menu and select the point in the channel signal path to feed the direct outputs. The list is in signal processing order. The setting affects all 64 input channel direct outputs.

Follow Fader Touch button. When on, the signal follows the fader level. It may be considered 'post-fade' but note that the signal source is determined by the drop down menu setting and may not be the same as that at the main channel fader position.

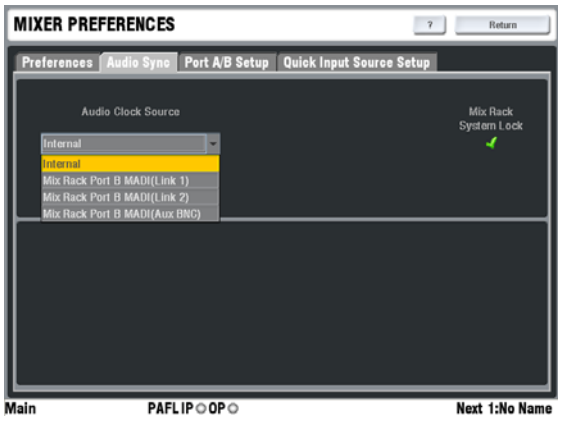
Follow Mute Touch button. When on, the signal set using the drop down menu follows the MUTE key function.

Note: For recording individual channels to a multitrack it is typical to source the signal directly after the Preamp. It would normally be set with Follow Fader and Follow Mute off.

Global Input Channel Preamp Option can be used to set all inputs to use either Preamp or Trim controls on the channel strip to save having to do each channel individually. This is useful to flip between sound check (using preamps) and show (using trims).

PEQ 20 – 20KHz Range this allows the ranges of each band on the parametric equalizers to be set as full range. The option can be set for all Input channels and for all Mixes

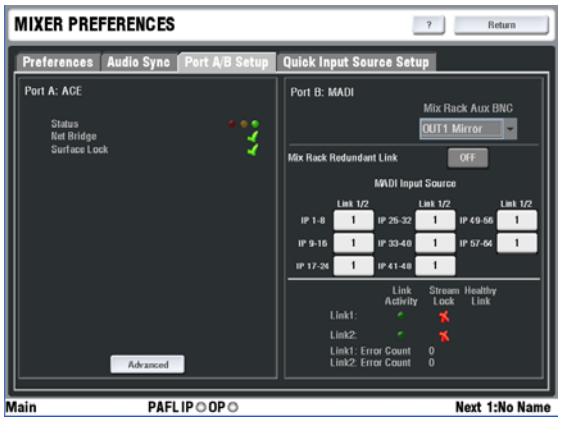
For **FOH/Monitor systems** using a Port B digital mic split between Master and Slave MixRacks make sure the Slave MixRack Audio Clock Source is set to sync off **Port B**



Audio Sync page Presents the options for the audio system clock source set up.

Audio Clock Source Choose the source of the system digital clock sync from the drop down box list. If the MixRack is a slave getting its channel audio via Port B from a master iLive, for example in a split FOH/Monitor application then set the source to MixRack Port B.

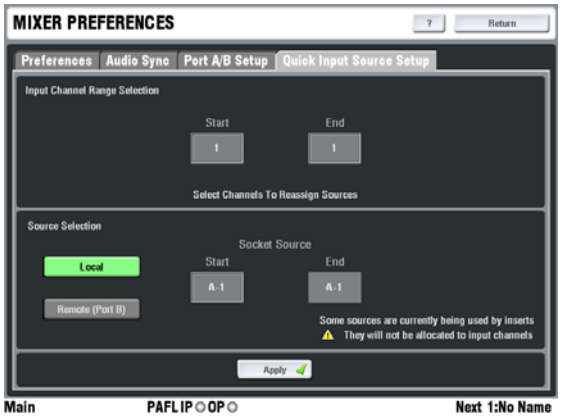
Note: If the source is incorrectly set you may get spurious meter readings and noises with no signal present.



Port A/B Setup Presents the status and any options available for the modules fitted into the slots available in the MixRack. A **red cross** indicates an error detected.

For the fixed format iDR16/32/48/64 MixRacks Port A is always ACE. The **Advanced** button gives a pop-up window that list key network parameters for the link. Port B can be fitted with one of the many options available.

See the Part 1 Guide for information on the Module Option hardware available.



Quick Input Source Setup page Allows for the quick changeover between Local physical input channel sources and digital audio network input channel sources for a range of inputs. This helps when setting up consoles and switching between single system operation and linked system operation, for example sharing mic inputs using a Port B digital mic split.

Individual channel sources can also be changed using the Source Select part of their PREAMP processing screens.

Input Channel Range Selection sets the range of inputs to have their sources changed.

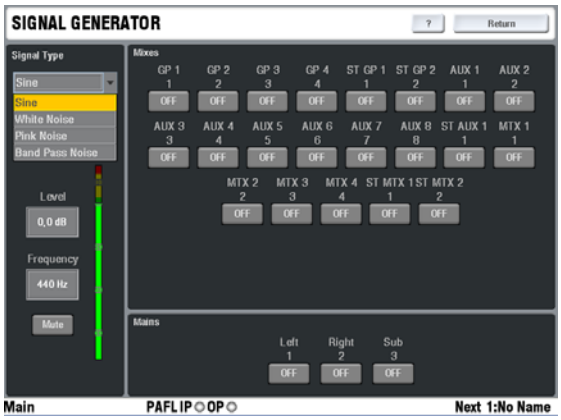
Source Selection Local sets the selected range of inputs to get their sources from the local audio physical inputs in the MixRack as defined by the start and end socket definitions.

Note: Sockets currently assigned as insert returns are ignored and the associated channel sources are left unassigned.

Source Selection Remote (PortB) sets the selected range of inputs to get their sources from the port B option module network sources as defined by the start and end channel definitions entered.

Note: The range entered cannot be larger than the Input Channel Range. The Port B source selection can be made even if no module is fitted to Port B.

Signal Generator page Provides a comprehensive tone / noise generator which can be used for checking and setting up the system. The generator settings are restored on power up and stored in the system Show memories. They are not stored in Scene memories.



Signal type Choose the generator signal source type:

Sine Pure sine wave tone. Touch the Frequency box and use the screen encoder to adjust the frequency of the tone. You an sweep from 20Hz to 20kHz.

White Noise Noise with linear response, equal energy per Hz.

Pink Noise Noise with logarithmic response. This is a very useful test source as it contains the full bandwidth of audio frequencies with equal energy per octave. Use this to quickly check the response of a signal path or correct operation and polarity of drivers in a loudspeaker system.

Band Pass Noise This is limited bandwidth noise with its centre frequency sweepable from 20Hz to 20kHz.

Level Touch the Level box and use the screen encoder to adjust the output level of the generator from fully off to +18dB maximum.

Mute Turns off the signal generator.

Mixes There is one button per mix available. The mix type and its name is identified next to the button. These route the generator to the Group, Aux and Matrix mixes. Touch a button to toggle it on (green) or off (grey). This routes the signal generator to any combination of the mix outputs. The signal is routed to mix bus and is therefore affected by the mix master processing and fader.

Mains The buttons in the lower part of the screen route the generator to the configured main mix. There may be 1 to 4 buttons depending on the type of main mix configured. The buttons are positioned here to keep them away from the other mix buttons and avoid accidental routing to the main PA.

Note: To avoid unexpected loud signals start with the generator Level turned down. We recommend that you turn the level down and turn off all the generator mix assignments after you have finished using the generator.

Note: The Signal Generator is disabled while the TALK switch is active.

SURFACE setup

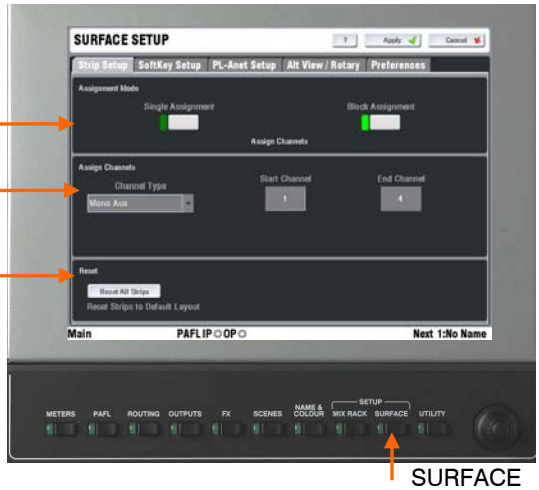
Once the MixRack audio architecture has been configured using the **MIXRACK SETUP** screen, you can assign the channels, mix masters, DCA group masters and Wedge/IEM masters to the Surface strips. These are assigned to the strips within the fader banks and across the 4 layers, either one at a time or across a range of strips. This is a quick process and changes to the strip assignments can be made on the fly during the show. Assignments can be stored in the Scene memories for different 'layouts' for different bands or scenes. Being able to assign the strips in any combination you choose lets you 'design' your own console layout. Together with the ability to name and colour the channels this gives iLive its unique flexibility and makes the mixing experience very visual and intuitive.

To access the Surface setup press the **SURFACE SETUP** key below the TouchScreen.

Assign single strips or a range within a bank of faders

Channel type

Reset all strips to MixRack config



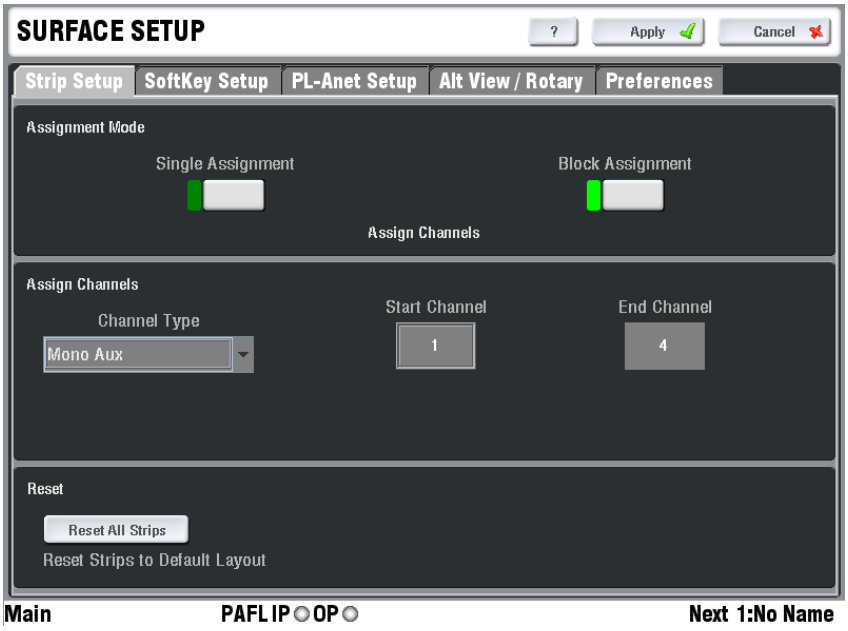
SURFACE

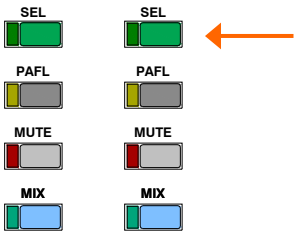
Note: To give you a quick starting point you can choose from a selection of factory 'Template' Show memories. These configure the whole system including audio architecture and strip assignments as classic formats that emulate the familiar layout of traditional analogue consoles. Start with a Template show and recall the Scene associated with your Surface size if you do not want to configure the strip layout from scratch. Once loaded you can edit the format and archive it as a User Show for recall again later. Alternatively you can use the **Editor** program to lay out your strips and save the setting for transfer to the console.

To work with the Show memories go to the **UTILITY** / **Configuration** / **Show Manager** page.

Note: The SURFACE SETUP screen takes over the function of the control strip SEL keys. Do not leave the TouchScreen in SURFACE SETUP mode. Once you have made changes to the strip assignments exit SETUP mode by turning off the key below the screen.

Assigning the Surface Strips





To assign a Single Strip Touch the Single Assignment button. Press the **SEL** key on the strip you want to assign. Use the drop down menu to select the Channel Type you wish to assign. Touch the Channel Number box to highlight it and use the screen encoder to scroll to the number required. Touch Apply to accept the change.

To assign a Block of Strips Touch the Block Assignment button. Working from left to right in the same fader Bank, press the **SEL** key of the first strip in the range you wish to assign. Now press the last in the range. All the green **SEL** indicators in the selected range should light. Use the drop down menu to select the Channel Type you wish to assign. Highlight the channel number boxes to enter the start and end numbers required. Touch Apply to accept the change

Note: Block assignment applies to strips in the same bank of faders. You can assign a range across the layers in a bank of faders.

Strip types available

Unused - The strip is left blank
Input - Input channel. Stereo inputs use a single strip.
Input FX - Dedicated short FX return
Mono or stereo Group - Stereo masters use a single strip.
Mono or stereo Aux - Stereo masters use a single strip.
Mono or stereo FX - Dedicated FX send mix bus.
Main - One fader per main mix output, eg 3 for LCR.
Matrix - Stereo masters use a single strip.
DCA - Masters.
Mono or stereo Wedge or IEM - Engineer's monitor masters

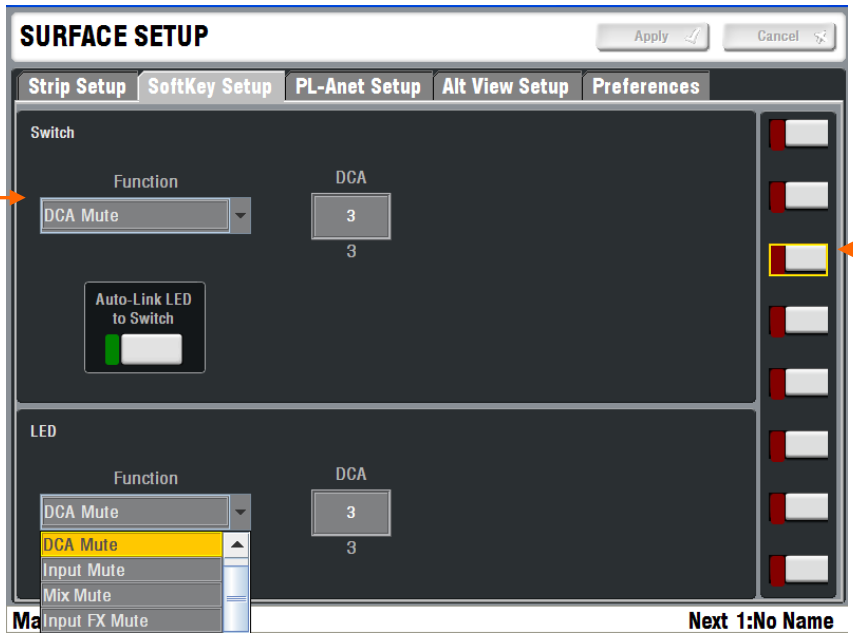
Reset All Strips This function is not often used but can be helpful if you are connecting a Surface with unrelated strip assignment to a MixRack. It automatically overwrites the current assignments and configures all strips across all fader banks and layers in a pre-determined order so that all channels, mix masters and DCA masters can be viewed and accessed as a starting point.

Note: It is not usually necessary to use this function. If you are starting with a new system or unrelated Surface and MixRack it is better to recall a Template or User Show. This gives you a more workable starting point as it presents a more conventional layout.

Assigning the Soft Keys

8 SoftKeys to the right of the TouchScreen can be assigned to different functions to suit your application. For example, you could use them as MUTE GROUP masters, to recall Scene memories, quickly access processing or mix parameters of a certain channel or master, send a MIDI message, Tap a Tempo and more.

Unused
LED on/off
Mute
Fader up/down
Send level up/down
FX level up/down
PAFL
Scene recall
Custom MIDI string
Talkback assign
SEL key
MIX key
PAFL/**SEL**/**MIX** combo
Tap Tempo



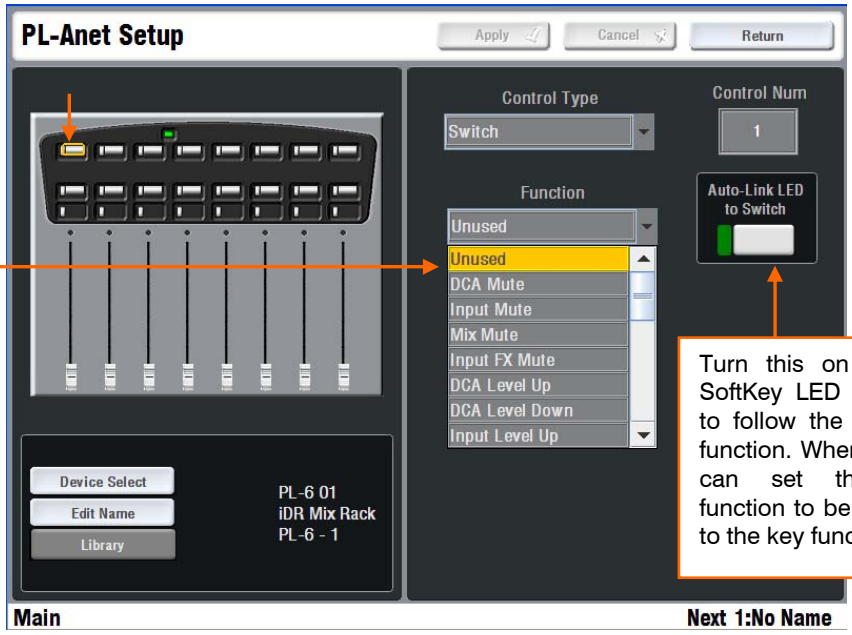
To assign the SoftKeys Select the TouchScreen **SURFACE / SoftKey Setup** page to view and edit the assignments of the 8 user keys.

Touch a key button in the screen and use the drop down menu and number box plus any other parameters requested to change its switch assignment. You can also assign its associated LED indicator. Select **Auto-Link** if you want the LED to automatically assign the related function. Press Apply to accept the change.

The PAFL, **SEL** and **MIX** choice lets you simultaneously action a combination of these functions for a selected channel or master. This is useful for monitor mixing when you may wish to assign all the fader strips as input channels. The processing, levels and PAFL for each of up to 8 mixes can be instantly selected by simply pressing a Soft Key.

Assigning PL Devices

Allen & Heath PL remote control device may be plugged into either the MixRack or the Surface. These provide controls such as faders, rotary encoders, switches, indicators and logic GPIO which may be assigned by the user to suit the application. These controllers interface to the iLive using CAT5 cable via the RS485 based PL-Anet port. To find out more about the range of PL devices available visit the Allen & Heath web site.



Unused
LED on/off
Mute
Fader up/down
Send level up/down
FX level up/down
PAFL
Scene recall
Custom MIDI string
Talkback assign
Tap Tempo ……

Turn this on for the SoftKey LED indicator to follow the selected function. When off you can set the LED function to be different to the key function.

To assign PL controls For PL devices plugged into the Surface select the TouchScreen **SURFACE SETUP / PL-Anet Setup** page to view and edit the assignments of any PL Series remote control devices currently connected. For PL devices at the MixRack select the **MIXRACK SETUP / PL-Anet** page.

Note: PL devices must be connected before assigning their controls. The system identifies each device by type, their location (MixRack or Surface) and order in which they are connected. Names may be applied to each PL location. These are stored in the iLive not the PL devices.

Several remotes may be connected by daisy chaining PL-Anet CAT5 cables between them. Make sure that the last device in the chain has its terminator plugged in. If preferred, you can connect each with its own cable back to the iLive by using the Allen & Heath PL-9 PL-Anet hub. This may be required for on-stage personal monitor hookup. Check that all connected PL devices have their green Power LEDs illuminated. If the LED is off or red then check the cables and connections.

Note: The maximum number of PL devices connected depends on cable length and device type. Refer to the **PL Calculator spreadsheet** on the Allen & Heath website to check your application.

Select the Unit and Device from the screen. Use the screen selection boxes to scroll to the Control Type and Number you wish to assign. Use the drop down Function and LED Setting menus to assign the required functions. Press Apply to accept each change.

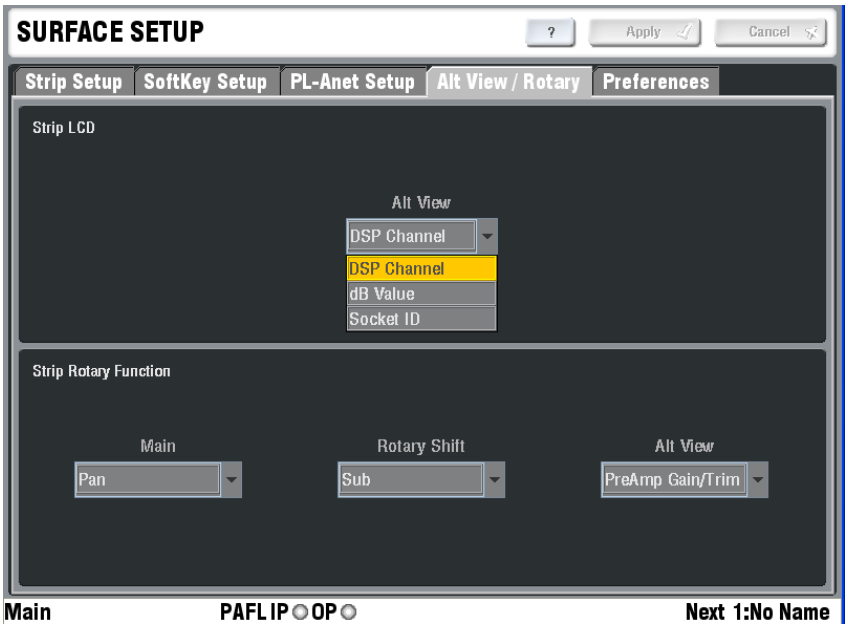
Each PL switch, LED, fader or encoder can be assigned in a similar way to the Surface Soft Keys. Plan your application before starting, and save your settings as a PL library item when you are finished. Libraries can be transferred between systems via USB key.

Note: If you have assigned PL switches to recall Scenes then these scenes should be transferred to or set up in the same way on the other iLive you transfer PL libraries to.

The Surface ALT VIEW key

The Surface fader strip LCDs normally display the channel names and the Channel Encoder acts as Pan. Hold down the ALT VIEW key to display alternative information such as channel or socket number, or dB value and access alternative encoder functions.

Choosing the function of the ALT VIEW key



Go to the **SURFACE SETUP** / **Alt View** / **Rotary Setup** page and use the drop down menus to select the ALT VIEW key function.

STRIP LCD the alternative display information that can be accessed is as follows:

DSP Channel Displays the MixRack channel number 1 to 64.

dB Value Displays the value in dB associated with the current function of the associated fader. This may be the main channel fader or a send level depending on the status of the **MIX** keys.

Socket ID Displays the input or output physical socket associated with the channel assigned to the strip.

R - = MixRack socket (this will be followed by 1 or 2 in a dual MixRack system where 1 is Master and 2 is Slave)
S - = Surface socket
A - = Port A network channel
B - = Port B network channel

For example: **R – B3** = MixRack slot B position 3

STRIP ROTARY FUNCTION the alternative encoder information that can be accessed is as follows but this setting also lets you choose which functions you want to access via the different levels of encoder function. You can define the function for the Main (default) operation, the Shifted operation and the Alternate operation of the Channel Strip Rotary control.

MAIN choose from the drop down list the primary function you want. This sets the function globally across all channel strips.

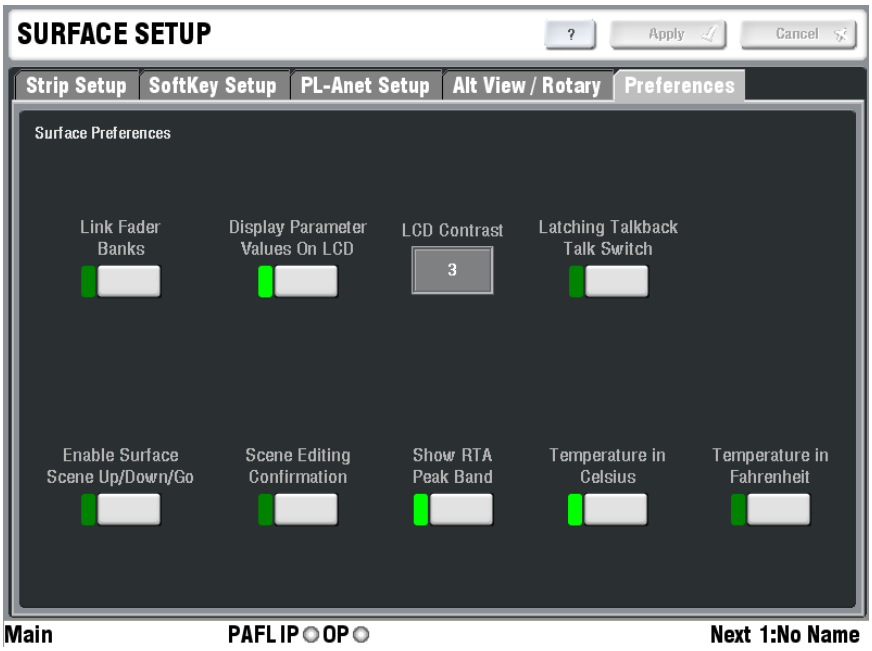
SHIFT choose from the drop down list the function you want to access when you hold down the **Rotary Shift** key. This sets the function globally across all channel strips.

ALT VIEW choose from the drop down list the function you want to access when you hold down the **Alt View** key. This sets the function globally across all channel strips. It is typical to set the Alt View rotary function to access Preamp Gain/Trim.

Note: There are some restrictions regarding what functions can used dependant on the type of main bus configured. Gain/Trim can only be displayed on the lower arc of the channel LCD so can only be used on Main and Alt settings. Sub and Mono can only be displayed on the upper arc of the channel LCD so can only be used on Shift and Alt settings.

Setting the Surface Preferences

You can set user preferences for how the iLive Surface functions. Go to the **SURFACE SETUP** / **Preferences** page.



Link Fader Banks Set the Surface fader banks for independent or linked layer operation across all banks. This affects all fader banks.

Display Parameter Values Display dB readings in the strip LCDs when the faders or encoders are moved.

LCD Contrast Set the strip LCD contrast.

Note: The LCD contrast is reset to '10' when the firmware is updated to a new version. Adjust the contrast after carrying out the update if needed.

Latching Talk Switch Set the Surface TALK switch for momentary or latching operation. Latched operation is convenient when you are using a microphone with built-in switch. In this case leave the TALK switch turned on.

Enable Scene Up/Down/Go Keys Enable or disable the Surface Scene up, down and GO keys. Unless you are using these for fast cue recall during a theatre show we recommend you disable them to avoid accidental operation.

Scene Editing Confirmation Enable Scene edit confirmation popup screens to help prevent accidental overwriting of settings.

Show RTA Peak Band Enables the Peak LED on the RTA display to show the frequency band with the highest signal level. This is useful for 'ringing out' a system.

Temperature Choose degrees Celsius or Fahrenheit for temperature display.

Name and Colour

Each Input channel, mix master and DCA master can have a 5 character name and one of 6 colours or no backlight applied to display on the Surface. The names appear on the strip LCDs and TouchScreen pages, and the colour affects the strip LCD backlights. The LCDs form a virtual write-on strip that makes mixing with iLive a very visual and intuitive experience. Note that all names and colours except the DCA masters can also be edited from within the related channel processing **SEL** screens as an alternative to using the **NAME & COLOUR** screen. However, the screen provides a quick way to change the colour of a range of strips or all channels of a certain type

There are two ways to name and colour channels:

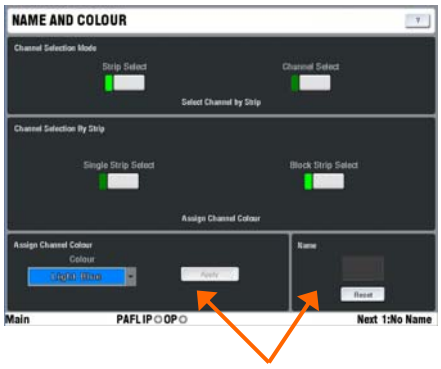
Channel Processing view

In normal mixing mode, press **SEL** to access the channel processing. Make sure all screen keys are turned off so that the channel parameters are displayed on the screen. Navigate to the name and colour screen:

Input Channels - **PREAMP** screen

Mix Masters - **EXT INPUT** screen

DCA Masters – Top toolbar Name & Colour tab



Name & Colour screen

Press the TouchScreen NAME & COLOUR key.

Strip Select / **Single Strip Select** - Press a strip **SEL** key. Touch Name to open the on-screen keypad. Touch Colour to select a colour. Touch Apply.

Strip Select / **Block Strip Select** - Press the first **SEL** key then the last in the range you want to colour. All green SEL indicators in the range light. Touch Colour to select the colour. Touch Apply.

Note – **Apart from resetting names to their channel numbers, naming is disabled in Block mode**.

Channel Select - Select Channel Type and the range. Select Colour and press Apply.

Note - **To restore the SEL keys to normal mixing mode turn off the NAME & COLOUR key**.

Touch **Reset** to delete the name and restore the channel number.

Quick Menu

A quick naming facility opens a second keypad to let you create and store up to 48x of your most often used names. To apply, press a strip **SEL** key and simply touch a name. Touch **Edit** to edit or create new names.

Note – **The user defined quick names are stored in the Show memories**. These get overwritten with the contents of the Show when it is recalled.

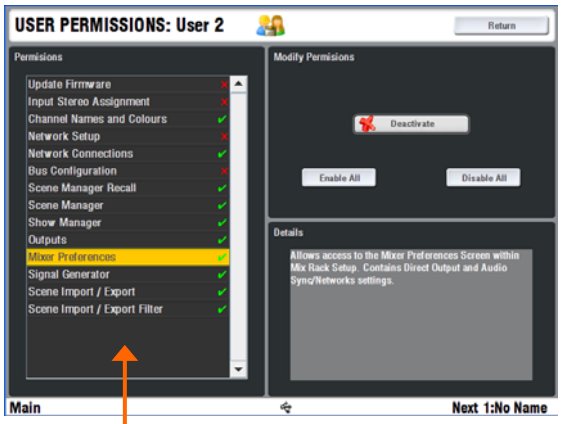
User Profiles

iLive lets you set up and work with up to 8 'User Profiles'. You can set permissions and a password for each to restrict operator access to certain functions.

The 'Admin' user (Administrator) has access to all functions and can set permissions and allocate passwords if required for the other users. Up to 7 guest users may be configured and activated.

To clear a Password – Touch the Password box. Enter a new password by touching Enter without typing in any characters. Touch Enter again to confirm.

The **Start Scene** (if one has been set) is recalled when the User is changed to one with a Start Scene set. It is only recalled when the user is changed.



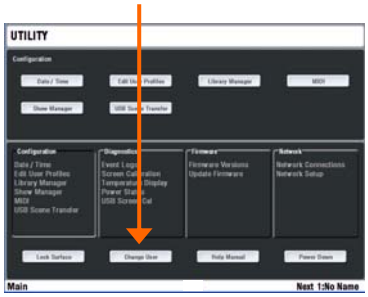
User Permissions:

Update Firmware
Input Stereo Assignment
Names and Colours
Network Setup
Network Connections
Bus Configuration
Scene Recall
Scene Manager (Store)
Show Manager
Outputs (socket patching)
Mixer Preferences
Signal generator

To set up User Profiles go to the TouchScreen **UTILITY / Configuration / Edit User Profiles** page. Touch a User button. Use the onscreen keypad to enter a user Name and add a Comment. Set a Password if required. Touch Set Permissions to enable or disable access to certain functions. You can also assign a Startup Scene which will recall automatically when the user logs in. Select No Startup Scene if none is required. Activate any user profiles you want to appear in the Change User or log in screen.

Note: Only set passwords if you really need to. Make sure you keep a log of all passwords allocated. Clearing lost passwords requires resetting internal jumpers and clearing the memories.

To log in as a different user go to the TouchScreen **UTILITY** page and touch the Change User button. If a password has been set then you are prompted to enter it when you turn the system on or lock or unlock the Surface.

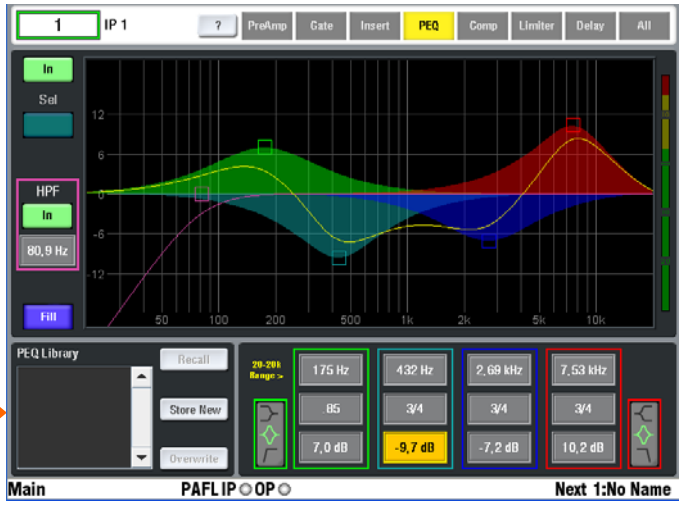


Library memories

You can name, store and recall parameter settings as User libraries, or recall factory presets from the Library pane in each processing screen.

Library types:

PEQ
GEQ
Noise Gate
Compressor
Limiter/De-esser
Full input channel processing
Full mix channel processing
FX emulations
PL-Anet setup



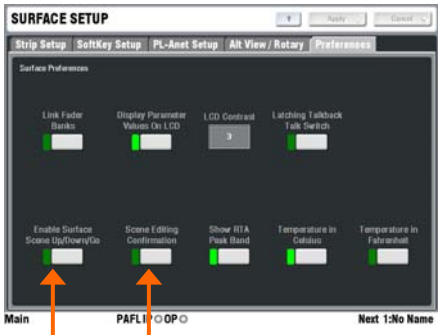
Touch the **Library** button to open up the library view. Select a Factory, User or USB item and touch **Recall** to recall its settings. Touch **Store New** to store the current settings as a new User library item. This open the touch keypad to enter a name.

Libraries can be archived to computer or transferred between iLive systems using a USB key. Press the TouchScreen **UTILITY / Configuration / Library Manager** key to work with the USB library function. If you plug in a USB key with libraries available these will be listed in the related Library screens. You do not need to copy them to the Surface to work with them. Copy libraries from the iLive to the USB key to archive or transfer them.

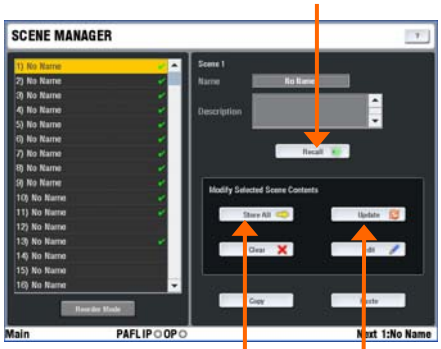
Note: **For iLive to see the Libraries on your USB key they must be placed in an 'allenheath \ libraries' folder in the root directory of your key**. If libraries have been previously transferred from an iLive to the key then the folder should exist already.

Scene memories

iLive has 250 Scene memories. These are 'snapshots' of all or a selection of the live mixing parameters. They do not store the DSP bus configuration and user preferences.

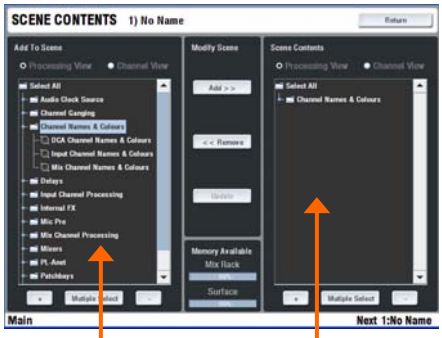


Recall Scene



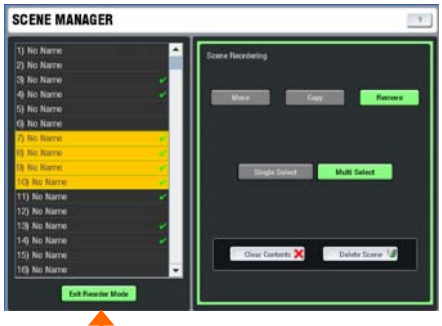
Store all settings

Update existing contents of Scene



Settings in the Scene

Settings available to add



Flip between Normal and Reorder mode

Before starting go to the **SURFACE** / **Preferences** screen and set the options to enable or disable the Scene Up/Down/Go keys, and turn on or off the Scene Editing Confirmation popup box. For the most secure operation we recommend that you disable these keys and turn on the confirmation popups.

Select the **SCENE** screen. Highlight a Scene in the left hand list. Touch Name to open the onscreen keypad and enter a name with up to 14 characters. Touch Description to add a comment with up to 32 characters.

The quickest way to work with Scenes is to store everything. Touch **Store All** to store all parameters to the Scene. Touch **Recall** to overwrite the current iLive settings with the contents of the memory. Once a Scene has contents stored a green tick is displayed next to its name.

Note: **To avoid losing important settings take care when storing or recalling Scenes**.

For more advanced applications you can choose what parameters to put into a Scene so that only those are overwritten. Touch **Edit** To open the list of available parameters. Use the + and - buttons to expand or collapse the list, and the View buttons to select parameters by type or channel. You can make Single or Multiple selections. Highlight your selection and touch Add to add them to the Scene list on the right. You can add and remove items from the Scene, and update items already in the Scene with the current console settings. When you have finished editing the contents Return to the Scene Manager page.

Touch **Update** to update just the existing contents of a Scene with the current console settings. Unlike Store All this does not add everything to the Scene.

You can copy, paste and delete Scenes. Highlight a Scene in the list and touch **Copy**. Highlight another Scene and touch **Paste**. The contents of the first Scene are pasted into the second. The name is not copied. If that Scene was empty a green tick will now appear. You can paste the Scene into multiple locations. When you **Delete** a Scene its contents are removed and the name reverts to 'No Name'.

Tip - You can use copy/paste to quickly set up several Scenes with the same content list, and then use Update to store different parameter settings for each as the sound check or show progresses.

Reorder mode - Lets you re-arrange the 250 Scenes by moving, copying, deleting them or clearing their contents.

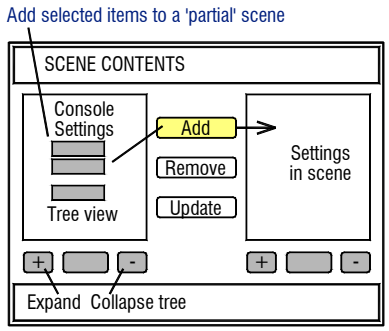
Select single or multiple Scenes. Use the TouchScreen encoder to highlight the new position when moving or copying Scenes. Touch Apply to confirm the edit.

Move – Repositions Scenes in the list.

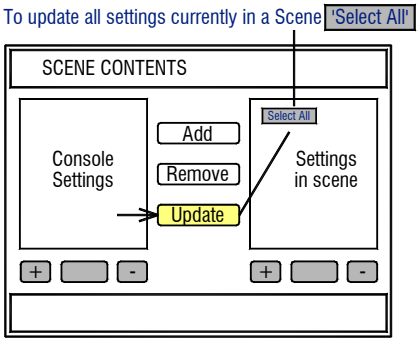
Copy – Copies the name and contents to other Scenes in the list.

Remove – Choose to clear the name and contents of Scenes, or to delete them from the list.

Using the Edit SCENE CONTENTS page

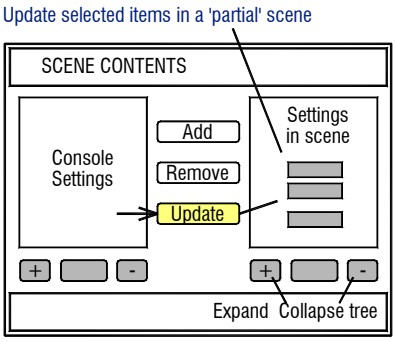


Add selected parameters to a Scene You can store 'partial' Scenes. Select items from the list in the left hand window to add to the scene. Expand and collapse the tree list using the + and – buttons. Touch the Multiple Select button to select more than one item at a time. Now touch the Add button to add the items to the Scene. If they already exist in the Scene their values will be updated. Once added, the item displays in the right hand window. Choose either Processing View or Channel View. The diagram that follows lists the available parameters in the left hand window and illustrates where in the signal chain the parameters exist.

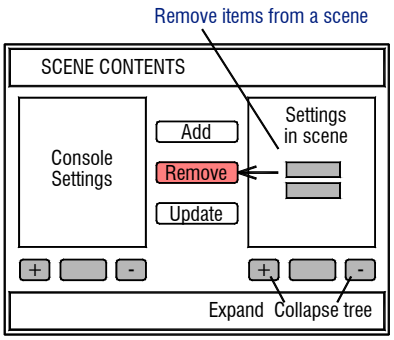


Update all parameters already in a Scene Highlight Select All in the right hand Scene Contents window. Now touch the Update button in the centre of the screen. The existing parameters stored in the Scene are updated with the current system settings. This does not add any parameters. It updates the values of parameters previously added to the Scene.

Note: A quicker method is to use the SCENE page Update button.



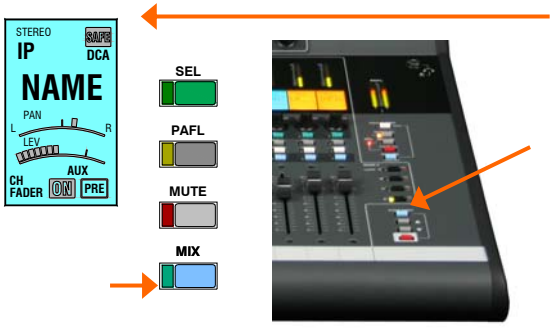
Update selected parameters in a Scene You can update the settings of one or a selection of items already in the Scene. Select the items you want to update from the list in the right hand window. Expand and collapse the tree list using the + and – buttons. Touch the Multiple Select button to select more than one item at a time. Now touch the Update button in the centre of the screen. The Scene parameters are overwritten with the current console settings. Choose either Processing View or Channel View to find the parameters you want to update.



Remove items from a Scene Highlight items in the right hand window to remove from the Scene. To remove everything highlight Select All. Then touch the Remove button in the centre of the screen.

For example, adding All then removing items may be quicker than starting by adding individual items.

Note: To remove all items you can also use the Delete Scene function from the SCENES screen top page. This also clears the Scene name.



Scene Recall Safes lets you make selected input channels and mix masters 'safe' so that their parameters are not overwritten when a Scene is recalled. Hold down the SCENE SAFES key and press the strip **MIX** keys on channels you want to make safe. The SAFE icon in the strip LCDs turns on for channels made safe.

Note: **The mic preamp is included in channels made safe**. You need to be aware that preamps can be patched to more than one channel, or used as sources to other parts of the system which may not be associated with the channel you want to make safe but the preamp will be safe for all. If preferred you can remove just the preamp from the channel Safe using the **PREAMP** screen.

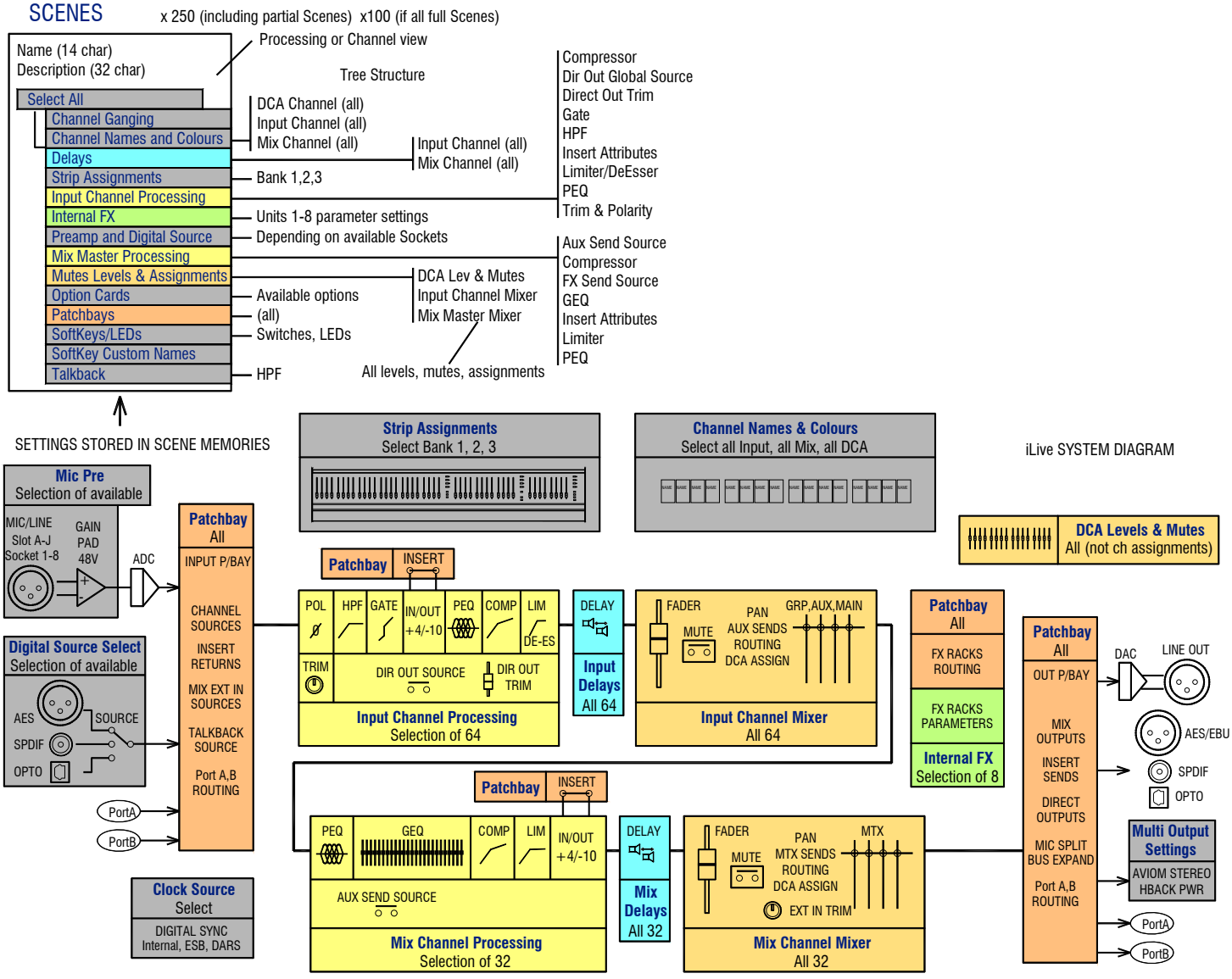
Scene parameters The diagram below lists the items that may be selected and added to the Scene memories. It also illustrates where the different parameters exist in the signal chain. The items are arranged as a tree view. You can expand and collapse tree items, and view it by Processing type or Channel number.

Note: Scenes do not include the Mix Configuration, EtherSound Configuration, and some User Preferences.

Note: The Mic Preamps are not part of the Input Channel Processing. This is because they are not permanently associated with the channels. They can be patched to different combinations of channels and used for other signals such as external inputs and insert returns.

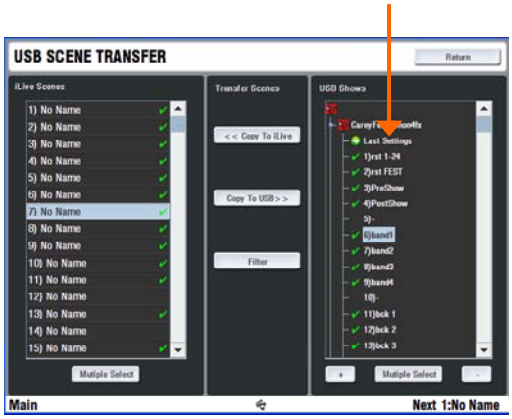
Note: The levels, mutes and assignments are treated as one item each for the Mix masters and DCA masters. Mix parameters associated with the Input channels including the input faders, pan, mutes, all assignments, pre/post settings, Aux and FX sends to the masters are part of the Input Mixer item which can be expanded using the tree list. Note that you can use Scene SAFES to protect selected channels.

Note: The Patch bay is treated as a single item. Recalling a Scene with the patch bay included overwrites all input, insert and output patching.



USB Scene Transfer

Recalling a Show completely overwrites all system settings and the system configuration. This may not be ideal in a festival situation where several guest engineers arrive with their settings stored as Shows on their USB keys. You may not want important settings such as output processing and patching overwritten. The USB Scene transfer function lets you select Scenes or 'last settings', and transfer these to Scenes within the iLive. A Transfer Filter can be assigned to block selected parameters from being overwritten.



To select and transfer Scenes from the USB key go to the **UTILITY / Configuration / USB Scene Transfer** page. Plug in the USB key. All Shows found on the key are listed in the right hand window. Highlight a Show and touch the + button to open up the list of Scenes in that Show.

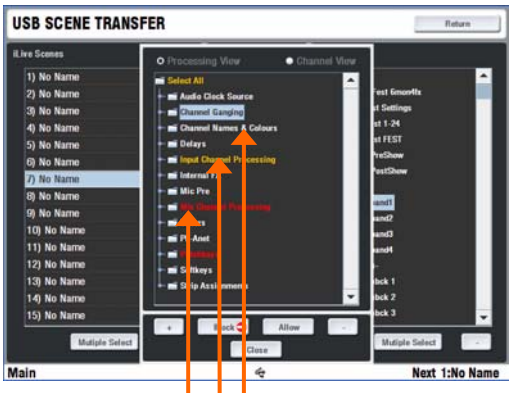
The first item in the list is **Last Settings**. These are the parameters that were current when the Show was archived. It is most likely that the guest engineer may not have stored their settings as a Scene and simply archived the Show to save current settings. In this case you can transfer these into a Scene you have allocated and named within your iLive.

Scene transfer Filter

Before transferring Scenes touch the **Filter** button and select parameters from the list to Block or Allow their transfer. Use the Filter + and - keys to expand or collapse the parameter tree.

The Filter tree is similar to the Scene contents list.

Items blocked are displayed in red. Items which have partial selection in their tree are displayed in orange. Once the Filter is set, highlight a **Single** or **Multiple** USB Scenes in the right hand window to transfer. Next, highlight a Scene in the left hand window to be overwritten by the transfer. Touch the Copy to iLive button to start the transfer.



White = All parameters in this branch allowed

Orange = Some parameters in this branch allowed

Red = No parameters in this branch allowed

Note: Transferring Scenes from the USB key does not immediately change the iLive settings. You need to select a transferred Scene and Recall it using the **SCENES** screen before its settings take effect.

Note: USB Scene names transferred overwrite the current iLive Scene names. The Last Settings item does not overwrite the Scene name. You can name iLive Scenes ready to accept Last Settings from the USB keys of different engineers.

Note: Scenes transferred into the iLive in this way may have been created on an iLive system with a different mix bus configuration, layout and patching. The transfer does a 'best fit' to match parameters to the iLive. Check the settings after recalling the Scene.

Show memories

You can archive your configuration as a Show memory. **Show memories overwrite all the settings**. These include all current parameters, system DSP and control configuration, all 250 Scenes and the user preferences. Shows are stored on the TouchScreen computer within the Surface and can be transferred between systems using a USB key.

iLive provides two types of Show memory:

Template Shows These are factory defaults to give you a quick starting point for standard applications. Template shows cannot be deleted or modified. They can be used as a starting point for creating a User show.

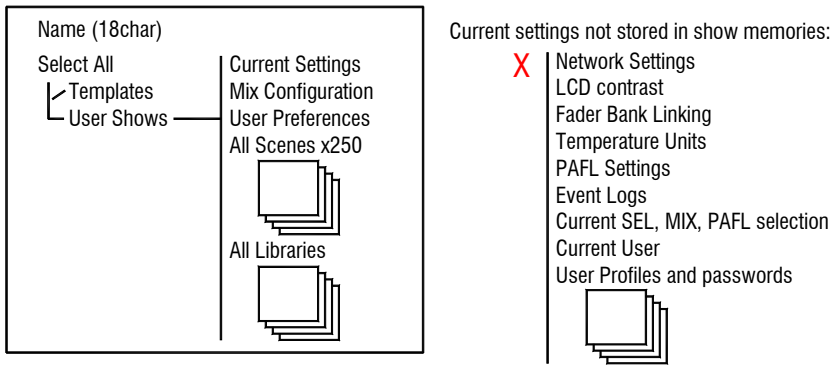
User Shows These store your customised settings for recall later or transfer to other iLive systems. User shows can be deleted, modified and transferred to other systems.

Important note about Firmware Versions: User Shows will not load on iLive systems running an earlier version of firmware than the system used to save the Show. However, Shows saved on earlier firmware versions will load on systems running more recent firmware. If you are working with an earlier version show we recommend that you re-archive it as a current version show. This may add parameters that were previously unavailable in the older version.

If you are transferring Shows between systems check that the system you are loading into is running the same or a newer version of operating firmware.

Note: We recommend that you always keep your iLive operating firmware up to date. Check the Allen & Heath web site for the latest version. This can be easily downloaded and installed via USB key.

Settings stored in Show memories



Current Settings Includes all the current mix parameters, processing parameters, preamp settings, names and colours, patching, effects, clock source, talkback and signal generator settings, and Surface strip assignments.

Mix Configuration The way the MixRack has been configured. Includes the current mix bus architecture, channel stereo assignments and global direct output source.

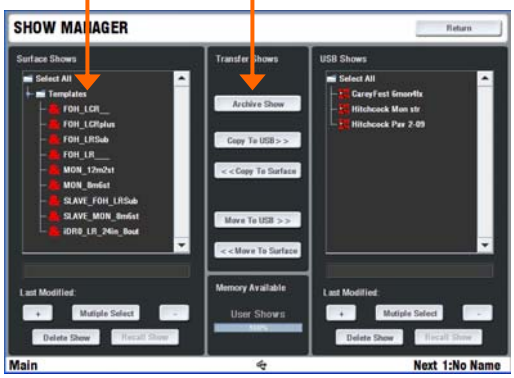
User Preferences Several user options including Scene switch enable, latching Talk switch, LCD value display, linking fader banks, Note that some options are not stored in the Show. These remain with the system and include PAFL preferences, temperature units and LCD contrast.

All Scenes The names, contents and descriptions of all the Scene memories are stored within the Show. Recalling a Show overwrites the Scene list with the Scenes stored in the Show being recalled.

All Libraries The user Libraries are stored within the Show. These overwrite the current libraries on recall. Note that the User Libraries can be separately stored to and recalled from USB memory key.

Factory default Template shows

Archive existing settings



User Show list

To archive your configuration go to the **UTILITY / Configuration / Show Manager** screen. Touch the Archive Show button. Type in a name using the onscreen keypad. Press Enter to archive the show. This takes a few seconds to complete.

Use the + button to Expand the list of Shows currently stored. Template Shows are factory defaults that cannot be deleted. They give you a quick starting point for mixing with iLive and can be edited to create your own User shows.

To overwrite an existing User Show highlight it in the list and touch Archive. The keypad opens with its name displayed. Either type in a new name to archive it as a different show, or just press Enter to overwrite the existing show.

To recall a Template, User or USB show go to the **UTILITY / Configuration / Show Manager** screen, highlight a Show in the list, then touch the Recall button. Confirm the action.

Note: Recalling a Show overwrites all the system settings and can change your mix architecture and patching. Make sure existing settings are archived first as a User Show if you want to keep them to use again in the future. Show recall can take a few minutes depending on how much information is stored.

Note: Show recall should only be used when reconfiguring your system for a different event. This would typically be done once for the event. Use the Scene memories rather than Shows to recall settings for different scenes in a theatre performance, bands at a music festival, day to day setups in a church, and so on.

Note: **For iLive to see the Shows on your USB key they should be placed in an 'allenheath \ shows' folder in the root directory of your key**. If you have previously archived Shows to the key using an iLive then this folder should have already been created.

Using TEMPLATE Shows

The iLive has a fully configurable audio architecture and control layout and socket patching letting you customise the way you work. It would be a daunting task for the new user if we gave them a 'blank canvas' to start from scratch. Instead we have provided a set of 'Template' Show memories which give you a choice of classic console format to load in as a quick starting point. These emulate the familiar architecture and logical layout of well equipped analogue consoles. Once you are comfortable working with iLive you can make changes to your set up and save these as your own 'User' Shows.

A default show is already loaded when the iLive is shipped from the factory. This is FOH-LRSub. Details of the layout and patching on the next page.

FOH-LRstereo Standard stereo main mix with LR master faders and channel Pan.

FOH-LRSub Stereo with separate Sub mix quickly accessible on each channel using a shifted rotary function.

FOH-LCRpan Conventional LCR panning - left through centre to right.

FOH-LCRplus LCR image control with Pan and Blend (LR to C) controls. Similar to the Allen & Heath ML Series consoles.

MON-8m6st 8 mono + 6 stereo mixes plus Wedge/IEM monitor.

MicSplit_FOH-LRSub FOH mixer receiving its inputs from the monitor console via the Port B digital audio network.

MicSplit_MON-8m6st Monitor mixer receiving its inputs from the FOH console via the Port B digital audio network.

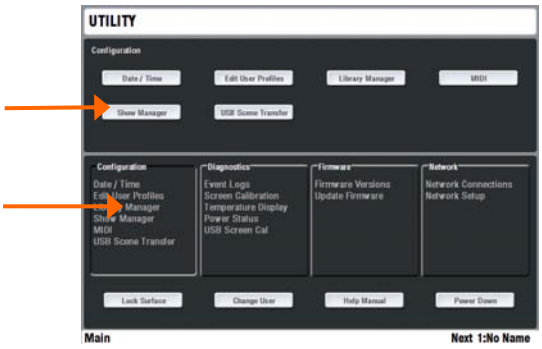
Note: Recalling a Show overwrites all the system settings including the DSP mix architecture, Surface configuration, current parameters, all the Scene and Library memories. Archive your current settings as a **User Show** before recalling the Template Show if you want to keep these to use again in the future.

Template Shows available:

FOH These make a good starting point for general purpose live mixing whether FOH only or mixing monitors from FOH. They provide a classic Group / Aux / Mains / Matrix bus architecture and differ only in the type of main mix configured.

MON These recall a format and layout suitable for dedicated monitor mixing, with a combination of mono and stereo auxes and engineer's dual Wedge/IEM monitor.

MicSplit Use these when the system gets its inputs from a 'master' console via a digital mic split such as Ace, MADI or EtherSound.



Load a Template Show

Press the UTILITY key below the TouchScreen - **UTILITY / Configuration / Show Manager**. Highlight the **Templates** item. Touch the + button to expand the tree. Select a show from the list and touch **Recall**. A show can take several minutes to load depending on the amount of data stored.

Recall settings for your iLive system

When the recall has finished, a 'Go to SCENE page' message is displayed on the strips. This is to remind you to load two Scenes, one to match your iLive MixRack and the other your Surface. These recall the strip layout for your Surface and configure the output patching for your MixRack. Press the **SCENES** key below the TouchScreen. **Recall** the two Scenes.

Customise and save your settings

You may wish to make changes to the configuration and save the new settings as a **User Show**. Before you do this we suggest you **Clear** the contents of Scene 1 - 16 ready for your own application.

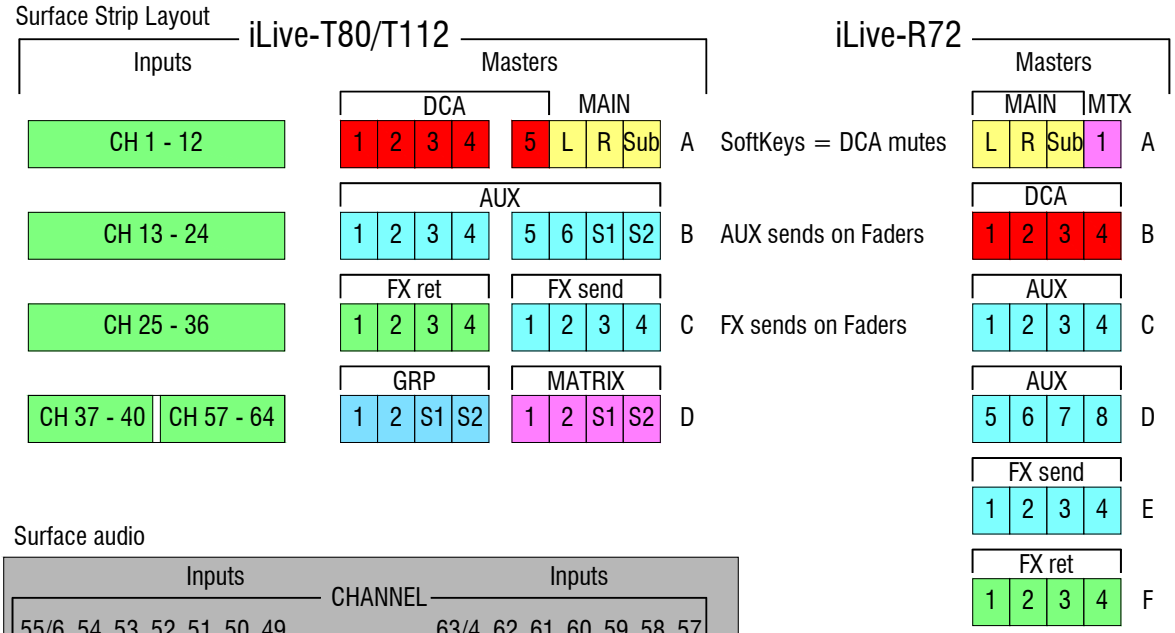
Fixed Format iLive - Factory Default Show

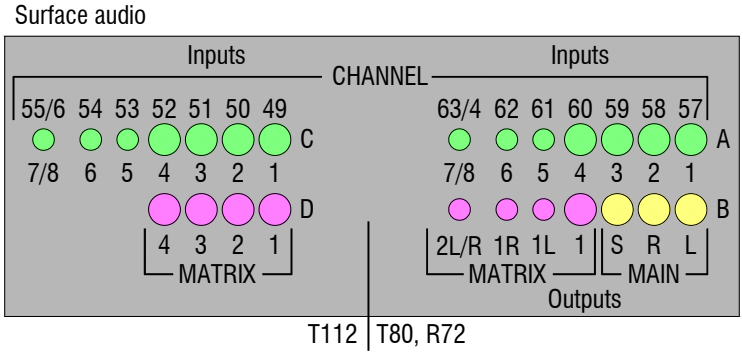
Template Show = FOH-LRSub

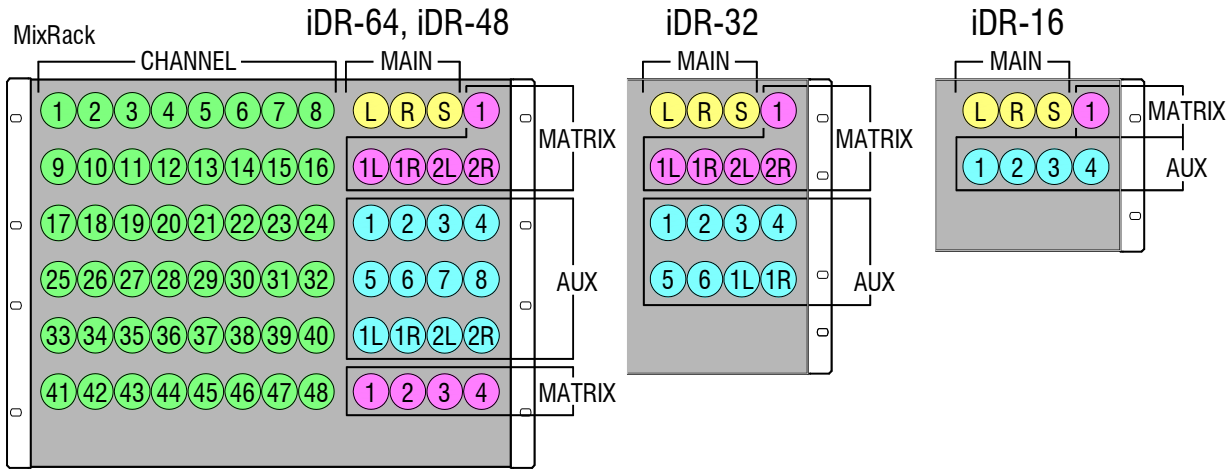
Bus configuration	LRSub main mix 4 mono, 2 stereo Groups 8 mono, 2 stereo Auxes 6 mono FX sends 4 mono, 2 stereo Matrix 16 DCAs	Channels	CH1 - 60 = mono CH61/62, 63/64 = stereo
		FX	6 Send/Return stereo FX 2 insertable stereo FX

Layout assigned for - 40 MixRack mic inputs + 4m/2st Surface inputs
L, R, Sub main mix, 2m/2st Groups, 6m/2st Auxes, 4 FX, 2m/2st Matrix

You can change your configuration and layout to suit your application
Name and archive your new configuration as a User Show







Working with USB data

iLive can transfer its Show memories, libraries and log files between the onboard computer and an external PC or another iLive system via a USB memory key. You can also recall a show directly from the key without the need to copy it to the Surface first. Use a good quality, non-partitioned USB key. Shows are saved as xml files.

Root
- allenheath
  - libraries
  - logfiles
  - shows

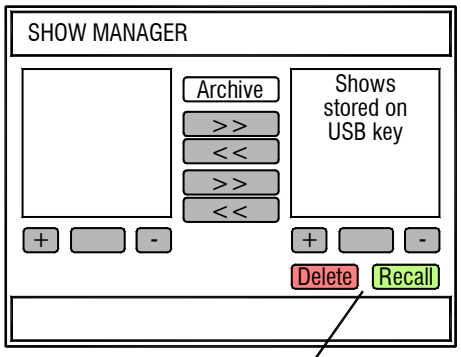
USB directory structure iLive sets up its directory structure in the root directory of the key. If you use a PC to copy iLive data to a USB key always use the directory structure shown here.

Note: **Use a good quality, non-partitioned USB key**. Make sure it has enough space free to store your data or any files to be transferred.

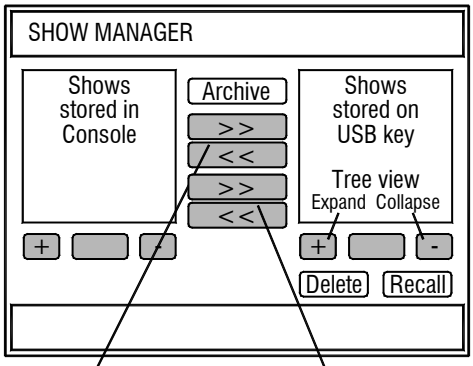
Archiving your data It is good practice to regularly archive your User Shows and Libraries to a directory on your PC. We recommend you do this before updating the iLive firmware, sending your iLive for service work, or letting other users operate the system, for example in a rental or festival situation.

Plugging in your USB key Plug your USB key into one of the Surface USB ports. Do not plug in more than one key. Wait a few seconds until the system recognises the key. A USB icon displays in the lower toolbar and the centre screen USB buttons become active.

Removing your USB key First make sure any data transfer to USB has stopped. Any progress popup box should have disappeared and the light on the USB key indicating data transfer stopped flashing. Simply unplug the key. You do not need to dismount it as you do when removing it from a PC.



Recall or delete Shows directly from the USB key



Copy Shows to/from USB key

Move Shows to/from USB key

Recall and delete Shows from USB key Use the Recall Show and Delete Show buttons below the right hand window to recall or delete Show memories directly from the USB key. You do not need to copy or transfer them to the Surface first.

Copy Shows to USB key Select a User Show from the list in the left hand window. Touch the Multiple Select button if you wish to select more than one to copy. Touch the Copy To USB button. The progress popup box appears and the Show is copied. Wait until the box disappears before removing the key.

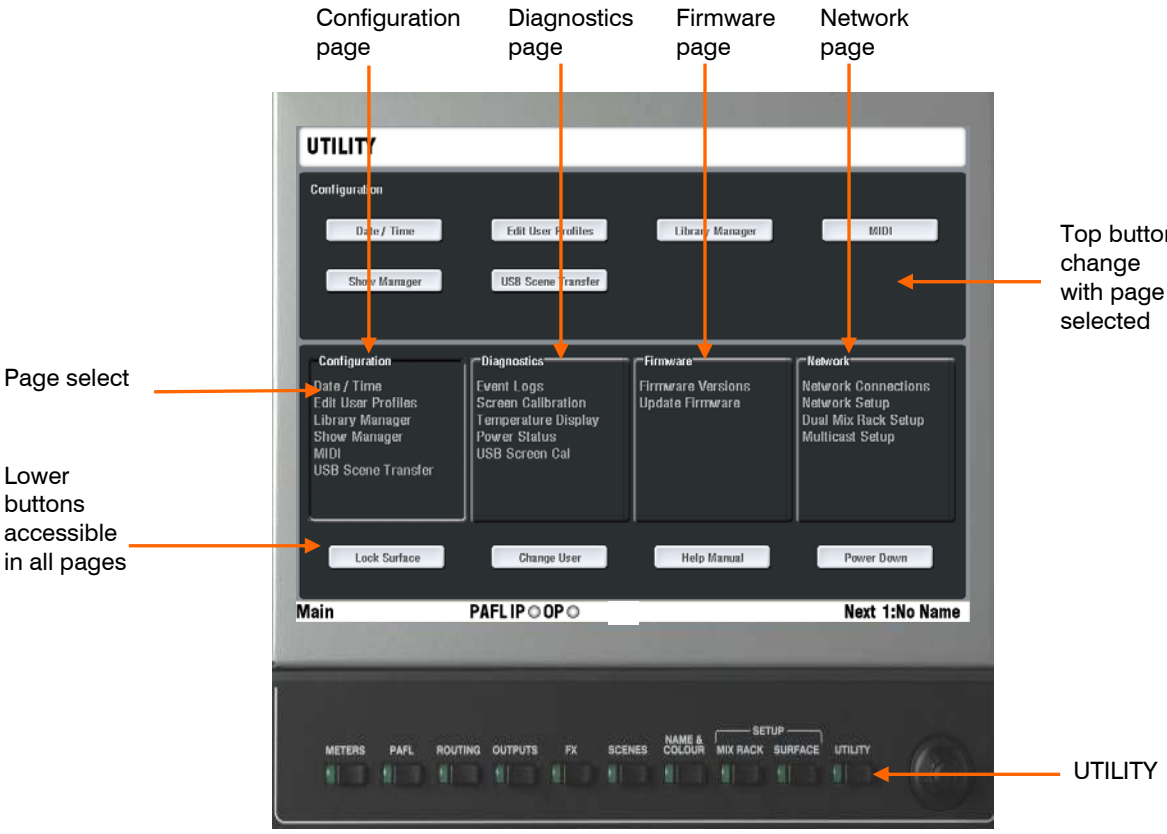
Note: **The system will not let you copy a Show to the USB key if a Show with the same name already exists on the key.** This is to protect against accidental overwrite. Remove or rename the show on the USB key, or rename the show you wish to copy.

Copy Shows from USB key Select a User Show from the USB list in the right hand window. Touch the Multiple Select button if you wish to select more than one to copy. Touch the Copy To Surface button. The progress popup box appears and the Show is copied. Wait until the box disappears before removing the key.

Move Shows to/from USB key This is similar to the copy function but transfers the Show rather than copies it. For example, it deletes the Show from the USB key if you move it to the Surface.

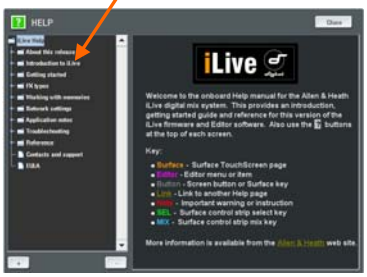
The UTILITY screen

The UTILITY screen provides access to many setup, diagnostic and user preference functions. They are grouped into pages according to function type , for example, managing the memories and User Profiles, checking system status and diagnostics, setting up the network, or updating the operating firmware. Some of these functions may not be available if the current User Profile has functions deactivated.



The UTILITY front page The screen is arranged with 4 main pages accessible by touching the big buttons in the centre of the screen. The top part of the screen changes according to page selected. The lower part presents the same set of buttons in all pages. These are the main operational UTILITY functions. Like the other screens, UTILITY always returns to the page last accessed. Touch the Return key at the top to navigate back to the top view and then on to the other pages.

Help menu



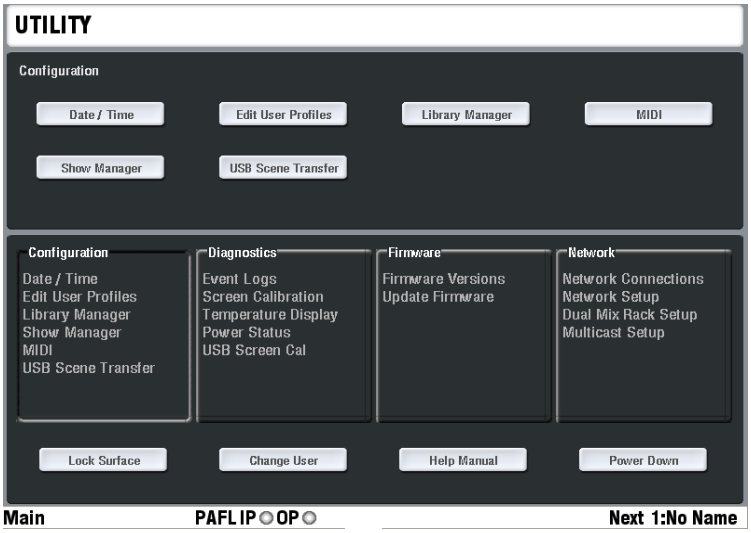
Lock Surface Touch this button to disable the Surface controls to prevent uninvited operation while the console is left unattended, for example during intermission or after sound check before the show. A popup appears to confirm you want to do this. If a password has been set for the current user then the touch keyboard appears prompting password entry. To unlock the surface touch the Unlock Surface button in the middle of the screen. If a password is set you are prompted to enter it or log in as a different user.

Change User Opens the USER LOGIN page. Select the user name to log in. Enter the correct password if one has been set.

Note: If a Startup Scene has been set it will be recalled when the user is changed. In this case make sure the current settings have been saved as another Scene before changing user if you want to keep them.

Help Manual Opens up the onscreen Help file. This presents a condensed user guide and reference information. It includes the Release Notes associated with the current version of firmware.

Power Down Touch this button to power down the TouchScreen computer before turning the system off. A popup appears for you to confirm that you want to do this. The popup also gives you the option to restart just the onboard TouchScreen computer.



Configuration page Provides access to the memory management, time setup and MIDI settings.

Date / Time View the current day and clock settings for the MixRack, Surface and TouchScreen. These are stored separately and may differ, for example if you are using a different MixRack with your Surface. Touch the Setup button to change the settings.

Note: **Accepting the changes reboots the TouchScreen computer.** The operation of the Surface is not affected while the screen computer is booting.

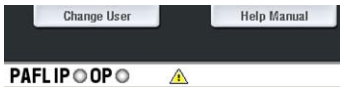
Edit User Profiles View, edit and activate the settings and permissions for the 8 User Profiles.

Library Manager Manage the User Libraries.

MIDI Set the MIDI channel number and access the MMC controls.

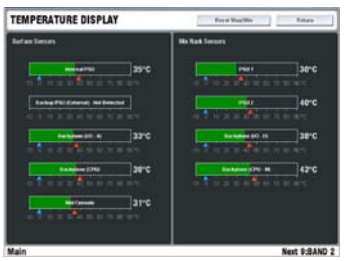
Show Manager Manage the Show memories.

USB Scene Transfer Import Scenes or current settings from within a Show on a USB key.



Diagnostics page Provides status and diagnostic information.

Event Logs You can view the event log for each of the MixRack, Surface and TouchScreen here. These log certain key events such as power, boot and memory activity as well as system errors if they occur. They provide a useful aid in diagnosing the system in the event of a problem. If a yellow triangle warning icon appears in the lower toolbar of any screen or a **red cross** appears in the Status screen while using the system then go to the Event Logs to view the error. Once viewed the yellow triangle and red cross will disappear. If you need assistance with the error, you can plug in a USB key and use the Store to USB button at the top of the screen to transfer the logs to a PC to email them to our Tech Support team.



Screen Calibration This routine lets you calibrate the TouchScreen. A timeout popup box lets you confirm the calibration. If your calibration is inaccurate you can wait for the screen to time out and then repeat the procedure.

USB Screen Calibration Lets you calibrate an external touch screen monitor connected via the rear panel VGA and USB ports.

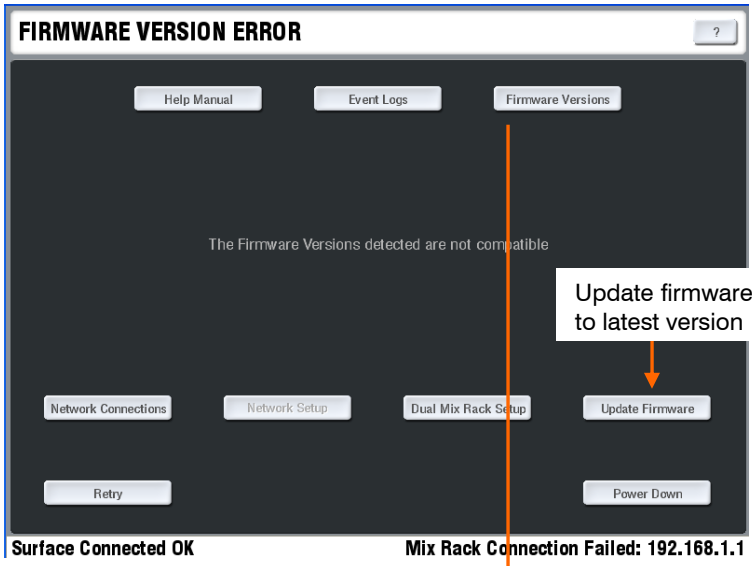
Temperature Display Displays the current temperature measured at several points within the Surface, MixRack and power supplies.

Firmware page Lets you check the current system firmware versions and load in new firmware using a USB key.

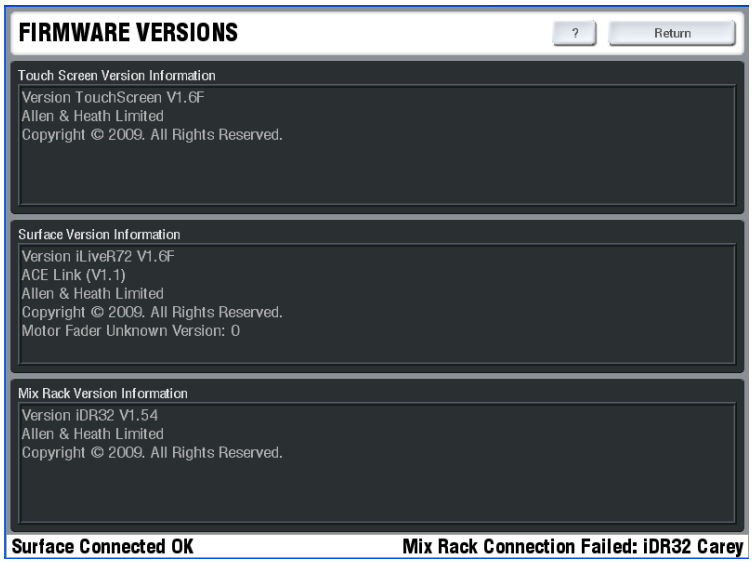
Firmware Versions Displays the current firmware versions for the TouchScreen, Surface and MixRack. They should all be the same version. If not the system would fail to connect and would prompt you to view and update its firmware during the boot up process.

Note: Check the Allen & Heath web site for the latest version of iLive firmware. A download and instructions are provided.

The following example shows failure to connect due to incompatible firmware versions. The MixRack is at a different version to the Surface and its TouchScreen.

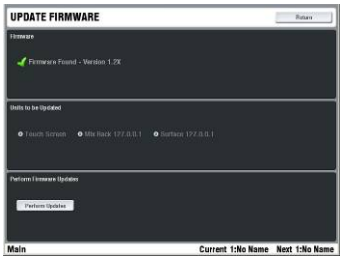


Check firmware versions



TouchScreen and Surface shown at Version V1.6F. MixRack shown at version 1.54.

In this case update the firmware as described on the following pages.



Update Firmware This page lets you load new firmware into the **iLive**. The process is very quick and easy. It automatically identifies firmware present on your USB key, checks if it is different to that currently loaded, identifies which of the TouchScreen, Surface and MixRack need updating, and prompts you to install it.

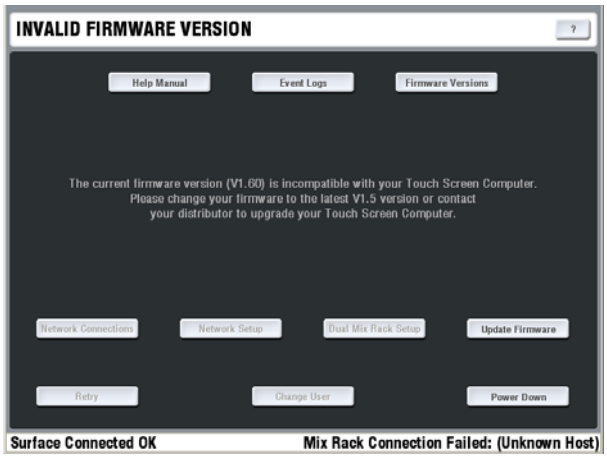
How to update the system firmware

The downloaded file is extracted to a USB key which is then plugged into the surface for the update to be performed. The MixRack, Surface and TouchScreen are all updated at the same time.

iLive operating firmware is regularly updated with improvements and new features. All iLive MixRacks and Surfaces run the same firmware. Check www.allen-heath.com for the latest version available.

Note 1: Firmware version **1.6 and higher will not install on early iLive Surfaces fitted with the 1GHz** TouchScreen computer (SBC). This affects only a few very early modular iLive Surfaces. Most modular iLive and all fixed format T and R Series Surfaces are fitted with the faster 1.5GHz SBC. If you attempt to update a 1GHz system to V1.7 the firmware will load but an 'Invalid Firmware Version' screen will appear after the update. You can restore the previous version V1.54 from this screen. The older version is bundled as a backup with this V1.7 update. The update to 1.5GHz SBC can be carried out by your Allen & Heath service agent. This provides the benefit of improved system speed.

This only applies to very early modular iLive Surfaces that have not been updated to the faster 1.5GHz SBC.



Note 2: All three parts of the system, the MixRack, Surface and TouchScreen must be updat ed at the same time. For iLive to work correctly all parts must run the same version. Make sure you update all iLive systems in your inventory.

Note 3: Do not use a USB key that has been partitioned. Use a key with at least **100 MB** of free space. Delete or rename any existing Firmware folder on the key.

Note 4: Update your version of Editor software at the same time. Make sure all users have the correct version of Editor installed on laptops or touch tablets they intend to use with your iLive system.

Note 5: The firmware **file transfer must not be interrupted**. Failure to complete the transfer may result in firmware corruption of the iLive which will require return to a service centre. Make sure the mains power and connecting cables are reliable and that the system will not be disturbed or switched off during the update.

There are two methods to update iLive firmware:

Method 1 Update firmware using the Surface USB port:

Step1 Download the firmware and read the Release Notes

Visit http://www.ilive-digital.com/firmware/ Download the latest firmware and read the Release Notes. Save the zipped file to your Desktop or folder of your choice.

Step2 Extract the Firmware folder

Unzip the file. You should find a folder called Firmware inside the zip file. Included in the folder are the data files needed for the update, a text file which displays the version number, and two sub folders.

Step3 Copy the Firmware folder to your USB key

Delete or rename any existing Firmware folder on the USB key. Copy the Firmware folder to the **root** directory of the key. Do not change the folder name.

Step4 Save your current iLive settings as a Show

Updating firmware restores the console parameters to factory default. Current settings are lost. If you want to keep your settings make sure you first archive them as a User Show. These are not overwritten by the update.

Step5 Plug the key into a Surface USB port

Go to the **UTILITY** / **Firmware** screen and touch **Update Firmware**. A green tick ✓ and the version number should be displayed indicating that firmware has been found on the key. Check for correct version number. Green ticks ✓ ✓ ✓ indicates units ready to be updated. A red cross × indicates a unit that cannot be or is already updated.

Step6 Perform the update

Touch **Perform Updates** and confirm **OK**. It takes just over 1 minute for the update to install. **Do not interrupt this process**. When the 'Updated Successfully' window displays touch **OK** to restart the system. It can take up to 4 minutes to reboot the system for the first time after a firmware update. When complete, check that green ticks ✓ and the correct version number are displayed on the **Status** screen.

Step7 Recall your settings

Recall a Template Show or the User Show you saved before the update to restore your settings.

Step8 Download and install the latest version of iLive Editor software

The version of Editor software run must be compatible with the firmware version.

Method 2 Update firmware using a PC running Editor software

Note: It is very important that the firmware update is not interrupted. Failure to complete the update may result in firmware corruption of the iLive which will require return to a service centre. To avoid problems ensure a reliable network connection. If you are using wireless make sure you are in close range with good signal strength. Make sure the PC battery is charged or it is running on mains power. Make sure all other applications running on the PC are closed.

Step1 Download the firmware and Editor software

Visit http://www.ilive-digital.com/firmware/ Download the latest firmware and read the Release Notes and Readme file. Save the zipped file to your Desktop or folder of your choice. Also download the compatible version of Editor software and read its Readme file. Make sure you choose the correct version for PC or MAC.

Step2 Start an online Editor session

With your laptop connected to the iLive, start your current version of Editor. Connect to 'Online MixRack' if you have no Surface. Connect to 'Online Surface and MixRack' if you have both. Do use 'Online MixRack' if you have both.

Step3 Save your current iLive settings as a Show

Updating firmware restores the console parameters to factory default. Current settings are lost. If you want to keep your settings make sure you first archive them as a User Show. Editor stores the User shows in a version specific directory on your PC. We recommend you transfer all Shows you wish to keep to a USB key ready to load them back in once the new version of Editor is installed. To learn more about Editor file locations and how to transfer them between versions please refer to the Readme file.

Step4 Locate and choose the firmware update file

Click on the **Edit** menu **Remote Firmware Update** item to open the update window. Click on **Find Update File** to browse the PC directories. Firmware update using Editor works with the compressed zip file. Locate and choose the zip file. Editor processes the file ready for update. Green ticks ✓ show that valid firmware and devices to be updated have been found. Check that the firmware version is correct.

Step5 Perform the update

Click **Perform Updates** and confirm **OK**. It takes around 30 seconds to update a MixRack, about a minute for rack and surface. **Do not interrupt this process**. When the 'Updated Successfully' window displays click **OK**. This opens the Editor log connection screen. Close Editor and install the new version before reconnecting.

Note: If you try to connect to the iLive before updating Editor then you will get a 'Failed to Connect' message due to incompatible software version.

Step6 Install the new Editor software

Install the downloaded software and start the Editor application. Connect to the updated iLive in the normal way. Refer to the Editor Help file for further information.

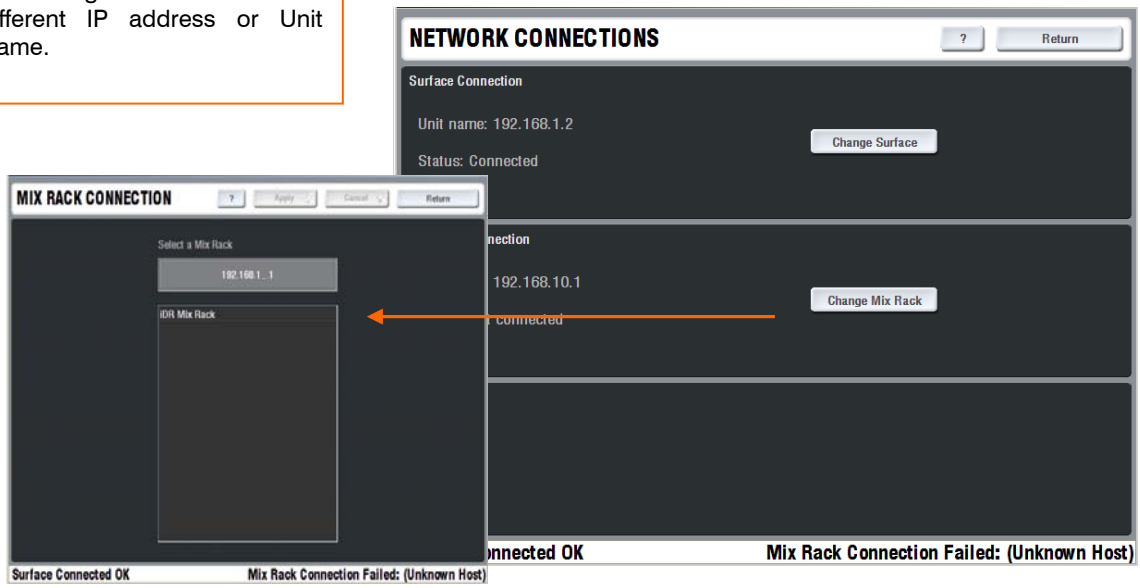
Step7 Recall your settings

Recall the User Show you saved before the update to restore your previous settings, or load a Template Show.

Network page Lets you view and change the system unit names and network settings.

Network Connections This page displays the names, network addresses and connection status of the devices currently connected via Ethernet to the onboard TouchScreen computer. You can change which MixRack to connect to here.

Use this screen if you are connecting to a MixRack with a different IP address or Unit Name.



Connecting to a different MixRack Use the Network Connections page to select the MixRack.

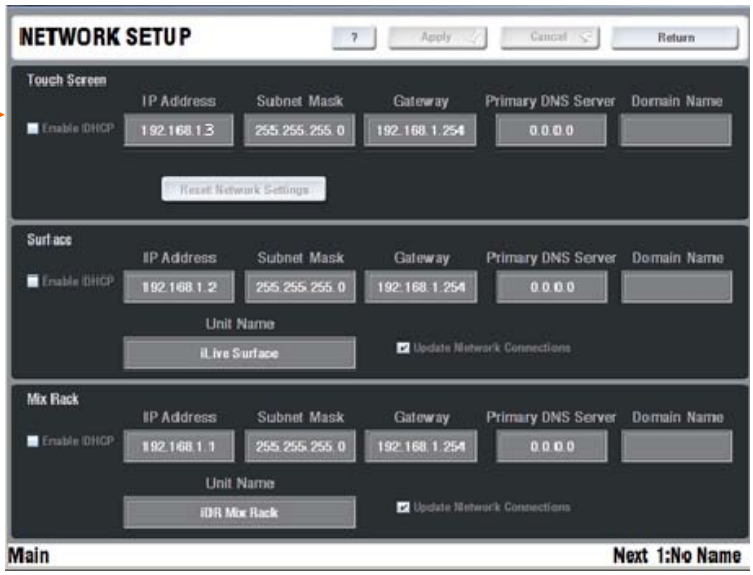
Note: The TouchScreen remembers the last MixRack it connected to. If you are connecting the Surface to a different MixRack it will look for the original rack and not find it. It will come up with the **CONNECTION FAILED** screen. Simply open the Network Connections screen, touch Change MixRack and select the new rack from the list displayed.

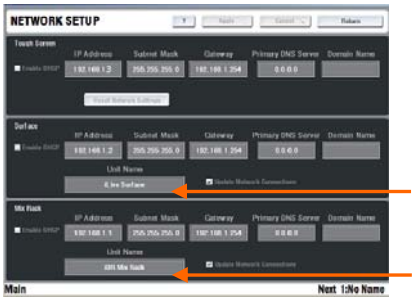
Network Setup This page lets you view and edit the names and network settings of the three devices on the network, the TouchScreen, Surface and MixRack.

The iLive default network settings are for static IP address. DHCP is only needed if you are connecting to a network that automatically provides IP addresses using a DHCP server.

The IP addresses can be changed, for example if you are connecting two or more iLive systems on the same network. Each iLive Surface, TouchScreen and MixRack must have a compatible but unique IP address.

If the system does not connect because network addresses have been changed you can reset these to factory default using the procedure on the following page.





Unit Name Touch the box to open the touch keyboard and enter a unique name to identify each MixRack and Surface.

Note: If you are using the Dual-Rack function to connect two MixRacks to one Surface then make sure each rack is identified with a unique name.

Note: We recommend that you use the default network settings for your system where possible.

How to reset the network settings

This is done using a power up sequence.

1. **Power off both the MixRack and Surface**.
2. **Reset the MixRack network address**.

    a. Insert a pointed object into the Reset hole in the MixRack CPU module. There is a switch inside – Press and hold the switch in.

    b. Power on the MixRack. Hold the CPU reset switch in for at least 15 seconds while the rack is booting up.
3. **Reset the Surface network address**.

    a. Insert a pointed object into the Reset hole in the Surface CPU module. There is a switch inside – Press and hold the switch in.

    b. Power on the Surface. Hold the CPU reset switch in for at least 15 seconds while the surface is booting up.
4. **Reset the TouchScreen network address**.

    a. Go to the **UTILITY / Network / Network Setup** page.

    b. Touch the Reset Network Settings button.

    c. Touch the Apply button at the top right of the screen.

    d. Touch the Restart Units button.

The system reboots with default network addresses applied.

Recessed Network Reset switch

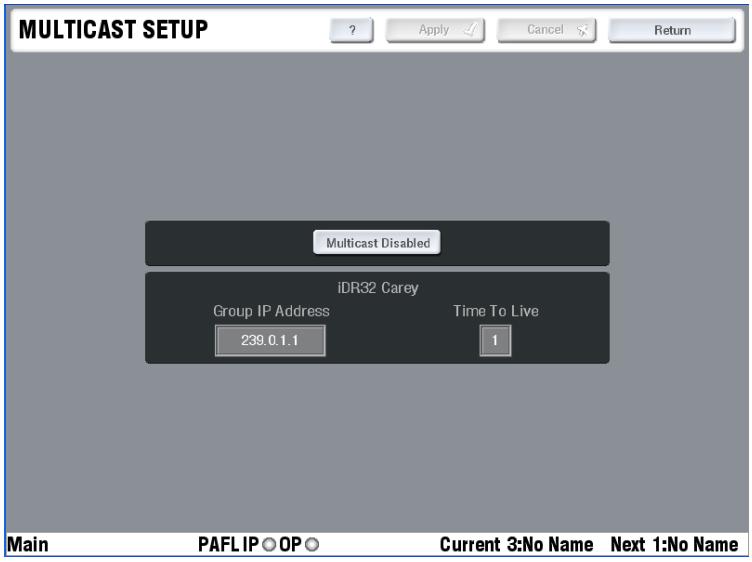
Default Network Settings

MixRack IP address	192.168.1.1
Surface IP address	192.168.1.2
TouchScreen IP address	192.168.1.3
Subnet mask	255.255.255.0
Gateway	192.168.1.254

Note: If you are connecting other devices such as laptop, iPhone or wireless router to the network make sure they do not have the same IP address as the iLive components. Each must have a unique but compatible IP address.

Multicast Setup If you are running Editor on a wireless laptop where signal strength is low or interference a problem you may notice the Surface meters freeze regularly too. This is because the MixRack sends meter data separately to both Editor and the Surface and waits for a response from each that it is received. If Editor is slow responding it also affects the meter display and control at the Surface.

Multicast is a network technology for 'one to many' addressing that does not wait for a response that it has been received. Multicast affects the way meter data is transmitted over the iLive network. This can speed up the performance of the Surface in situations where Editor wireless reception is poor.



Important Note! **Multicast is not supported by all wireless routers and network devices.** For this reason the iLive default = Multicast Disabled.

Before you enable Multicast please ensure that all wireless access points and wireless routers on your network support and are enabled with **IGMP Snooping** (Internet Group Management Protocol). If you are unsure please refer to your network equipment manufacturer.

To enable Multicast:

Use the **Surface UTILITY / Network / Multicast Setup** screen or Editor Setup / Multicast Settings window.

Note: If you have more than one iLive system on the network then set a different Multicast Group IP Address for each, for example:

Rack 1 = 239.0.1.1

Rack 2 = 239.0.1.2

Time To Live sets the reach of the multicast data or number of routers it will travel over, typically = 1 for a standard iLive system.

Touch **Apply** to enable Multicast. This will reboot the iLive system.

Search the Internet to learn more about Multicast network technology.

Connecting a laptop running iLive Editor

Use any NETWORK port

Default iLive IP settings

MixRack	192.168.1.1
Surface	192.168.1.2
TouchScreen	192.168.1.3
Subnet mask	255.255.255.0

Router Recommended:

Router address	192.168.1.11
Subnet mask	255.255.255.0

DHCP enabled

Start address	192.168.1.100
End address	192.168.1.200

Security WPA

Laptop Recommended:
DHCP enabled
(Address automatically received from router)

If static addressing required:

Laptop address	192.168.1.10
Subnet mask	255.255.255.0

A laptop running Editor can control the iLive using a wired or wireless connection to any iLive NETWORK port.

Wired - Plug a standard CAT5 network cable between the laptop Network port and any iLive NETWORK socket.

Wireless - Plug a wireless router (wireless access point) into any iLive NETWORK socket using a CAT5 cable. Use the laptop Wireless connection to connect to the iLive via the router.

Note: If you have problems connecting, check that the required connection is enabled or try disabling all other network connections on your laptop.

Network settings Check that all devices on the iLive network have compatible IP addresses.

Wireless routers have an IP address to identify them on the network. This address is also used to access their settings. Some routers default to 192.168.1.1 which conflicts with the default iLive MixRack address. In this case change the address of the router before plugging it in. Its address must be 192.168.1.nnn where nnn is the unique address number different to that of the iLive and other devices on the network. Refer to your wireless router guide for setup instructions, and to the table below for the default iLive addresses.

DHCP addressing is recommended for operation with the iLive. Most wireless routers have DHCP enabled by default. Check that the DHCP address range (scope) is restricted to avoid conflict with the iLive and other connected devices with static IP addresses. Refer to the recommended settings in the table below. Your laptop will be set for DHCP to automatically receive its address from the router.

Static addressing If you have problems with your router and laptop set to DHCP then try using static IP addressing, but only for stand alone systems not connected to a larger network. Set your router and laptop wired or wireless connection for static addressing and allocate compatible IP addresses. Refer to the table here.

Security We strongly recommend that you enable Wireless Security on your router to prevent unauthorised access. By enabling WPA/PSK encryption the iLive system will remain private from other laptop users. A wireless key or passphrase will be required. Keep a note of the wireless key entered.

SSID This is the name broadcast by the router to identify the wireless network to the laptop. It is recommended that you set a unique SSID using the router setup menu to help differentiate between the wireless networks seen by the laptop.

Working with Wifi Position the wireless router within its specified operating range from the laptop. For best performance keep it in line of sight of the laptop. The wireless connection may run slower or you may lose connection if the signal strength is low.

Note: It can takes a minute or two for Editor to connect to iLive. Surface operation and metering may be interrupted for brief moments due to the increased network activity as Editor connects. Audio is not affected. At one point the Surface may freeze for around 10 seconds. Once connected normal Surface operation resumes.

Note: If you experience interference with the wireless signal it may be due to another wireless router operating in the local area on the same frequency. In this case access the router setup menu and change its wireless frequency (channel).

For information on using Editor refer to the Help manual within Editor.

Connecting an iPhone running iLive Tweak

iLive Tweak is an application for the Apple iPhone, iPad or iPod Touch. It can be downloaded from the iTunes store. Tweak requires firmware version **V1.7 or greater**. Ensure the latest firmware has been downloaded and installed on the iLive system from the Allen & Heath website. V1.7 provides the following control:

Input channel	Fader, Mute, PEQ, Delay
Mix master	Fader, Mute, PEQ, GEQ, Delay
FX send	Fader, Mute
FX return	Fader, Mute, PEQ
DCA master	Fader, Mute
PAFL master	Fader, Mute

Use any NETWORK port

iLive Tweak controls the iLive via a wireless router (wireless access point) plugged into an iLive network port. The iPhone uses Wifi to connect to the iLive wireless network. 802.11n is recommended as it will maximise the wireless coverage for an iPhone 4 or iPad. 80211.g is suitable for older iPhone models.

Default iLive IP settings

MixRack	192.168.1.1
Surface	192.168.1.2
TouchScreen	192.168.1.3
Subnet mask	255.255.255.0

Router Recommended:

Router address	192.168.1.11
Subnet mask	255.255.255.0

DHCP enabled

Start address	192.168.1.100
End address	192.168.1.200

Security	WPA

iPhone Recommended:
DHCP enabled
(Address automatically received from router)

If static addressing required:

iPhone address	192.168.1.12
Subnet mask	255.255.255.0

Network settings

Check that all devices on the iLive network have compatible IP addresses.

Wireless routers have an IP address to identify them on the network. This address is also used to access their settings. Some routers default to 192.168.1.1 which conflicts with the default iLive MixRack address. In this case change the address of the router before plugging it in. Its address must be 192.168.1.nnn where nnn is the unique address number different to that of the iLive and other devices on the network. Refer to your wireless router guide for setup instructions, and to the table below for the default iLive addresses.

DHCP addressing is recommended for operation with the iLive. Most wireless routers have DHCP enabled by default. Check that the DHCP address range (scope) is restricted to avoid conflict with the iLive and other connected devices with static IP addresses. Refer to the recommended settings in the table here. Your iPhone should be set for DHCP to automatically receive its address from the router.

Security We strongly recommend that you enable Wireless Security on your router to prevent unauthorised access. By enabling WPA/PSK encryption the iLive system will remain private from other laptop users. A wireless key or passphrase will be required. Keep a note of the wireless key entered.

SSID This is the name broadcast by the router to identify the wireless network to the laptop. It is recommended that you set a unique SSID using the router setup menu to help differentiate between the wireless networks seen by the laptop.

Working with Wifi

Position the wireless router within its specified operating range from the iPhone. For best performance keep it in line of sight while operating. The wireless connection may run slower or you may lose connection if the signal strength is low.

Note: If you experience interference with the wireless signal it may be due to another wireless router operating in the local area on the same frequency. In this case access the router setup menu and change its operating channel.

Download iLive Tweak

iLive Tweak is compatible with the iPhone 3, 3G, 3GS and 4, iPad and iPod Touch. The application can be downloaded via the iTunes Store to a PC or MAC or directly onto the iPhone or iPad using the device **App Store** application. In both cases you will need your Apple ID and password. These instructions apply to both the iPhone and the iPad.

From iTunes Enter the iTunes Store and search for "iLive Tweak". iTunes will then download the iLive Tweak application to your library. Plug your iPhone into your PC or Mac and sync your Apps library with your phone to install the application.

Direct to the iPhone Search for "iLive Tweak" in the App Store application. Once selected the application will be downloaded and installed onto your device.

Configure the iPhone for Wifi

The iPhone must be joined to the configured wireless network before the iLive Tweak application can connect to the iLive. Follow the steps below to enable Wi-Fi:

Select Settings

Select Wifi

Turn Wifi on

Choose network by name

Enter wireless key
Wait for network to connect

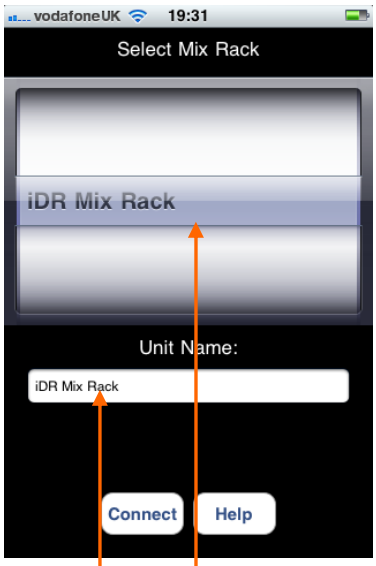
Connection made
Check for good signal strength
Check security is enabled

Connect to the iLive

To launch the iLive Tweak application, click on the icon on the iPhone home screen. Once launched you can select an iLive MixRack from the list. Make sure the iLive is powered on, the wireless router has been correctly configured and the iPhone Wifi is connected to the correct network. Check that the Wifi icon in the top left toolbar shows good signal strength.

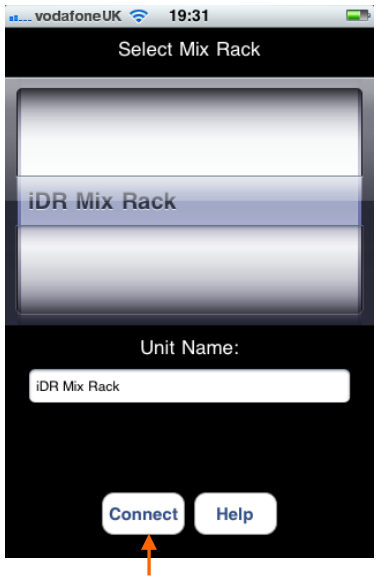
Touch Connect, select a User, enter a password if one has been set within the iLive for that User, and touch Login as shown below. After a few seconds the iLive should connect and the **Channel Select** screen shown.

Open iLive Tweak



Available MixRacks shown in list

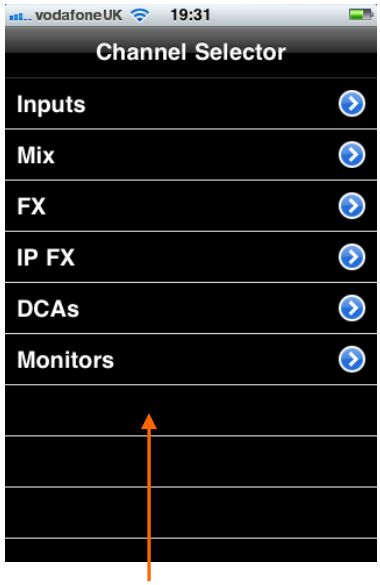
MixRack last connected to shown here. If different then spin the drum to display the rack you want to connect in the Unit Name box.



Touch Connect to connect to selected iLive MixRack

If no password has been set for the selected User then ignore the Password box. Touch Login to connect.

Select a User, enter the Password if one is set for that user, then touch Login



The iPhone is connected.

Select the channel you want to adjust using the Tweak functions.

To exit the iLive Tweak application press the iPhone Home button

Using iLive Tweak Once connected, a menu organised by channel type lets you select a channel to control. You can control level, mute, delay, PEQ and GEQ where appropriate by swiping left and right. To return to the menu use the 'Channel Selector' button at the top of the screen.

Demo mode An offline demo mode is available under the Help button for you to try the application when an iLive is not connected.

Problems? If you experience problems connecting to the iLive then check the following:

Check that the iLive is powered on and working correctly.

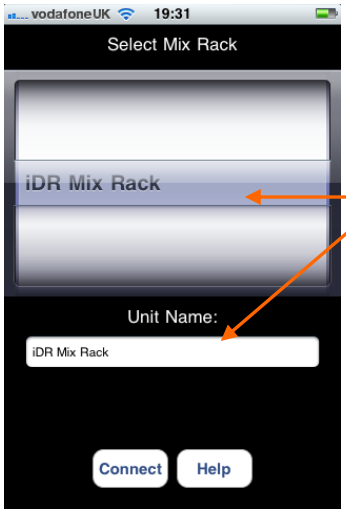
Check that the iPhone is connected to the correct Wifi network in the list.

Good signal

Lost signal

Check that there is no interference from other Wifi access points in the local area. If you suspect interference then try changing the channel of your wireless router.

Check that the Wifi icon displays good signal strength. If this is replaced by a blue dot then connection has been lost with the wireless router.



Make sure you are within operating range of your wireless router and that the signal is not blocked by walls, metal or other objects.

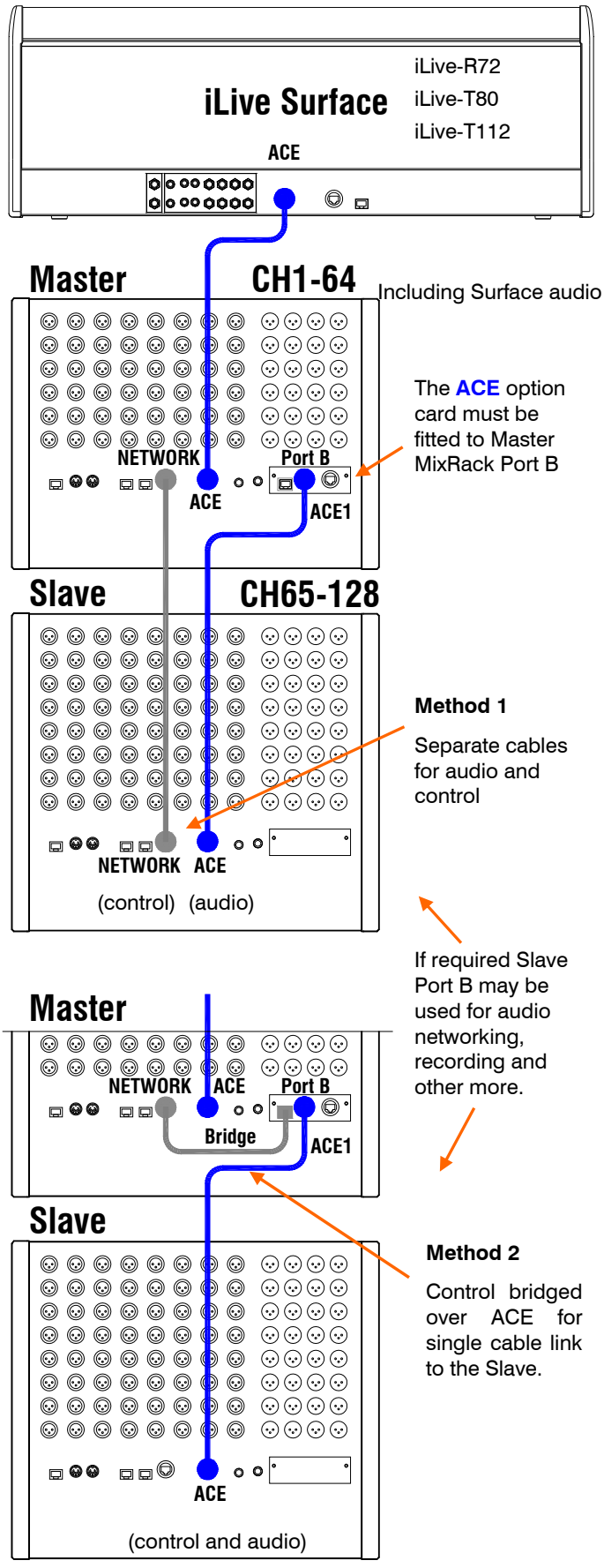
If the iLive takes a long time trying to connect then check that the MixRack name displayed in the Unit Name box is the same as the one highlighted in the drum above.

If the name is not the same then the application is trying to connect to a different MixRack. This would be the case if the MixRack you want to connect to is not the same as the one last connected.

If the name is different and there is only one MixRack in the list then spin the drum. The name will then appear correctly in the Unit Name box.

Dual MixRack configuration – Fixed format using ACE

Two MixRacks may be connected in Dual-Rack mode to expand the number of input channels from 64 to 128. The number of physical inputs available depends on which MixRacks are used. This does not expand the number of mix buses.



Step 1: Network settings

Important note: The Master and Slave MixRacks must have unique IP addresses and Unit Names.

Make sure both addresses and names have been set before the two MixRacks are connected together.

Set these in **Network Settings**

For example: 192.168.1.1 "Master 1-64"
192.168.1.4 "Slave 65-128"

Step 2: Connect Dual-Rack system

Connect the Surface to the Master MixRack using 1x CAT5 cable in ACE Port A.

Link the Master and Slave MixRacks using 2x CAT5 cables. According to your preference, choose:

Method 1 – Connect a Master Network port to a Slave Network port. Then use a second cable to connect Master Port B ACE 1 to Slave Port A ACE. or

Method 2 – Link a Master Network socket to its Port B Bridge socket. Then use one cable to connect Master Port B ACE 1 to Slave port A ACE.

Refer to Allen & Heath web site for recommended cable type and maximum length.

Step 3: Set up Dual-Rack system

Using the Surface TouchScreen go to **Utility / Network / Dual MixRack Setup**.

Touch **Add Slave**. Highlight a MixRack in the list to add as Slave.

Touch **Inspect**. Details of the MixRack are displayed. Check that the firmware is compatible.

Touch **Apply** to add the MixRack as a Slave. The MixRack reboots and resets its parameters.

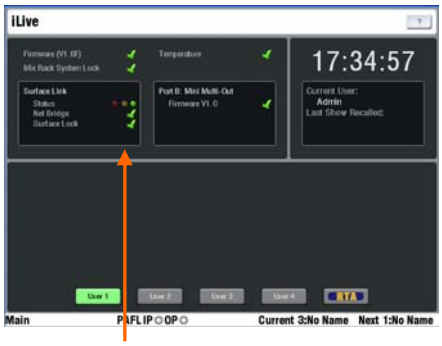
Note:

- Channels 1-64 are sourced from the Master MixRack (Preamps cannot be mapped across MixRacks).
- Channels 65-128 are sourced from the Slave MixRack.
- Surface audio can only be assigned between channels 1- 64 (connects to Master MixRack).
- Each MixRack processes its own channels 1-64 or 65-128.
- The Master MixRack processes the 32 buses.
- FX may be inserted on Master channels 1-64 only.
- Channels cannot be ganged across MixRacks.
- The Reset Network Settings recessed switch restores default single MixRack operation.

Troubleshooting FAQ

Also refer to the FAQ within the **Help Manual** available at the Surface TouchScreen and Editor software.

Red Cross and yellow triangle errors



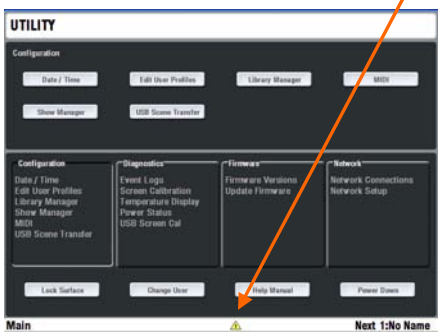
All green ticks = healthy system

A red cross **X** displayed on the Status page when no screen or **SEL** key is active warns you of an error detected in the system. If you are in a different screen a yellow triangle will appear in the bottom toolbar.

If you see a **Yellow Triangle** in the bottom toolbar while in any screen:

Surface - Go to the TouchScreen Status page and check for a red cross. View the Event Logs for information on the error (see below).

Editor - Click on the yellow triangle to open the Health window.



Firmware **X** displays that an error has been detected by the operating system. Go to the Surface screen and check the logs for errors **UTILITY** / **Diagnostics** / **Event Logs**. In most cases the cause of the error will be obvious, for example a network connection problem. If you are concerned about the error you can use this screen to copy the logs to your USB key and email the files to Allen & Heath Technical Support.

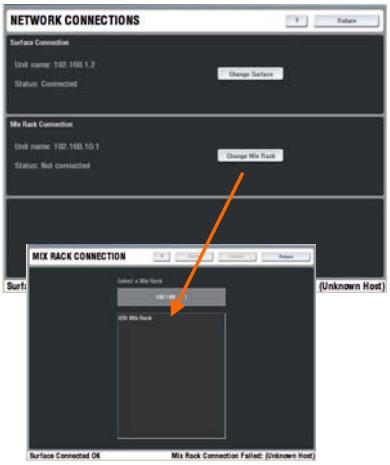
Note - Once you have viewed the Error Log and returned to the Status screen the red cross and yellow triangle should have cleared and been replaced by a **green tick**.

Surface Lock **X** displays that the Surface audio is not sync locked with the MixRack. This may simply be that the audio network cable is unplugged. If it remains on with the cable plugged in check for a broken cable or bad connection.

MixRack System Lock **X** displays that the MixRack internal audio is not sync locked. Check that the MixRack **Audio Clock Source** is correctly set. This can be found in the Surface **MIXRACK** / **Mixer Pref** / **Audio Sync** screen. For a stand alone system with one MixRack connected to one Surface it should be set to Internal.

Temperature **X** displays that a temperature greater than 60 degrees C has been detected within the MixRack or Surface. Improve the ventilation, provide an additional fan or switch the system off to let it cool down. You can view the temperature readings in the Surface **UTILITY** / **Diagnostics** / **Temperature** screen. Make sure adequate ventilation is provided for the system.

System fails to connect



If you get the **CONNECTION FAILED** screen when you boot the system up:

Check that the **cables** connecting the MixRack and Surface are correctly plugged in and are not damaged. If you are using a two cable connection check that they are not crossed over or plugged into the wrong sockets.

ACE connection Make sure the CAT5 cable is plugged into the ACE sockets, not NETWORK at each end. Do Not plug in a second NETWORK cable if you are connecting a fixed format iLive with ACE. The network is bridged over the ACE connection.

If you are using a single cable connection via the **ACE option card** in the modular iLive **RAB2 Port A** slot then make sure the NETWORK connection is bridged at both ends using short CAT5 jumper cables.

Network connections (select a MixRack) Touch the **Network Connections** button. If you are attempting to connect to a MixRack with a name or network address that has been changed or to one that is different to the last rack connected, you may need to select it using this screen.

Touch the **Change MixRack** button to open a list of MixRacks recognised on the network. Select the MixRack you want to connect to and touch **Apply** and **Restart**.

Dual-Rack settings If the Master and Slave MixRack in a Dual-Rack system have the same IP address then they will not connect and the system will hang due to network conflict. This may be the case if both MixRacks have had their IP addresses reset to the default 192.168.1.1. Make sure each MixRack has a compatible but unique IP address before connecting them together. You can set this by resetting one MixRack and connecting the other to the Surface or Editor to change its IP address before connecting the first.

If a MixRack left in Slave mode is connected to a Surface as a single rack system it will also fail to connect. Reset its network settings using the recessed switch as described earlier in this guide.

Reset network IP addresses If the MixRack is not recognised then its IP address or operating mode may not be compatible with the rest of the system. In this case **reset the 3 network addresses** to factory default so that the MixRack, Surface and TouchScreen can see each other and reconnect. Once reconnected you can change the network settings to suit your application. Reset the network settings as described earlier in this guide.

Note: Resetting the addresses in this way should only be done if you are using a single stand alone system. Do not do this if you are connected to a DHCP server or system network with other devices connected. For complex network arrangements refer to your IT manager or use standard networking tools to diagnose problems.

For further diagnostics you could try connecting a laptop running **iLive Editor** to 'MixRack + Surface', or to 'MixRack only'.

If you need further help please contact Allen & Heath Tech Support in your area.

Lost connection

If you get the **CONNECTION LOST** screen then the iLive has lost network connection after having successfully connected.

Check that **mains power is present at the MixRack** if it is situated remote from the Surface.

Check that the **cables** connecting the MixRack and Surface have not become disconnected or damaged.

If the system lost connection after a **laptop or wireless router** was plugged in check that their IP addresses are compatible. If any external devices are set for DHCP operation then make sure their address ranges exclude the iLive addresses if those are set to static.

Laptop fails to connect

Make sure your laptop and wireless router IP addresses are not the same as and are compatible with the iLive addresses. Check that the DHCP is correctly set up if used for the router. Refer to the section on Connecting a Laptop earlier in this guide.

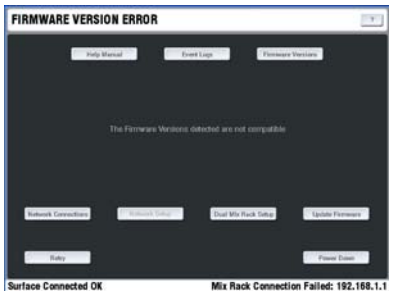
Check that your laptop is within the operating range of your wireless router, not blocked by walls, metal objects and people, connected to the correct network and that it indicates good signal strength.

iPhone fails to connect

Make sure your iPhone is correctly configured to work with the iLive. Refer to the section on Connecting an iPhone earlier in this guide.

Check that your iPhone is connected to the correct wireless network and indicates good signal strength.

Incompatible firmware



All iLive MixRacks and Surfaces run the same firmware. Keep all your systems up to date with the latest version of firmware. This gives you the benefit of new features and performance improvements. Read the Release Notes that come with the firmware. Check the Allen & Heath web site for the latest version.

If you get the **FIRMWARE VERSION ERROR** screen then touch the **Firmware Versions** button to view the current firmware versions for the MixRack, Surface and TouchScreen. Update the firmware if these are not the same. This is described earlier in this guide.

User Show fails to load

User Shows can only be loaded into systems running the same or newer version of firmware that was used to create them. For example, a Show created in V1.6 can be loaded into a system running V1.7. However, a Show created in V1.7 will not load on a system running earlier version V1.6.

Note: If you are planning to hire or use a venue iLive system we recommend you check with the system provider that their firmware is up to date. If it is not you may not be able to load your USB Show, and you may not be able to use features recently introduced.

Check that you have permission from the system owner to upgrade their system firmware if you carry a more recent version on your USB key. Make sure you have read the Release Notes for that version first.

iLive MIDI Specification

iLive supports MIDI control.

The **Modular iLive** provides MIDI IN, OUT and THRU connections at both the MixRack and Surface.

The **Fixed Format iLive** provides MIDI IN and OUT connections at both the MixRack and Surface.

MIDI Link Function MIDI is tunnelled over the iLive TCP/IP network link. This means that MIDI messages at IN on the Surface will appear at OUT on the MixRack, and MIDI messages at IN on the MixRack will appear at OUT on the Surface.

MIDI messages not intended for the iLive but to control other devices can be transported over the Surface to MixRack network link in this way. If you are using ACE™ to link your Surface and MixRack then this MIDI link is part of the single cable ACE connection.

Note – MIDI messages intended for other devices are tunnelled between the Surface and MixRack, but not between MixRacks linked between systems such as FOH/Monitor. However, if you are using the Dual-Rack function to expand the number of input channels under control of one Surface then those MIDI messages do appear at the OUT connection on both the Master and Slave MixRack.

iLive MIDI Messages supported

Firmware **V1.3** introduced the following MIDI functions:

Input Fader level	NRPN
Input Mute	Note On
Mix Fader level	NRPN
Mix Mute	Note On
DCA Fader level	NRPN
DCA Mute	Note On
Scene Recall	Program Change
MIDI Machine control (via TouchScreen)	

Firmware **V1.4** added the following MIDI functions:

FX send Fader level	NRPN
FX send Mute	Note On
FX return (IP FX) Fader level	NRPN
FX Return (IP FX) Mute	Note On
Channel Name and Colour	Sysex
DCA Assignment	NRPN

Firmware **V1.7** added the following MIDI functions:

Input to Main mix Assignment	NRPN
Preamp Gain	NRPN (by channel) or Pitchbend (by socket)
Preamp Pad	Sysex
Preamp 48V	Sysex

All MIDI message numbers shown in this specification are hexadecimal.

Refer to the end of this specification for a table of MIDI values for the variable parameters listed here.

MIDI channel

N

MIDI channel 1 to 16 = 0 to F

For Dual-Rack the **Slave** rack MIDI channel = **Master** rack MIDI channel + 1

Channel numbers

CH (refer to table)

FX Send 1 to 8 = 00 to 07

FX Return 1 to 8 = 08 to 0F

DCA 1 to 16 = 10 to 1F

Input 1 to 64 = 20 to 5F

Mix 1 to 32 = 60 to 7F

Sysex Header

Sysex Header

This applies to all Sysex messages described later in this specification

F0, 00, 00, 1A, 50, 10, **MV**, **mV**, **0N**

Where **MV** = 01 (Major version)

mV = 01 (Minor version)

Mute on

NOTE ON with velocity > 40 followed by NOTE OFF

9N, **CH**, 7F, **9N**, **CH**, 00

Mute off

NOTE ON with velocity < 40 followed by NOTE OFF

9N, **CH**, 3F, **9N**, **CH**, 00

Received Mute messages

Velocity 00 and NOTE OFF messages are ignored

Velocity 01 to 3F = Mute off

Velocity 40 to 7F = Mute on

Fader Level

NRPN with parameter ID 17

Fader value **LV** –inf to +10dB = 00 to 7F

Select channel	Parameter	Set fader value
BN, 63, **CH**,	**BN**, 62, 17,	**BN**, 06, **LV**

Channel Assignment to Main Mix ON

NRPN with parameter ID 18

ON value = 40 to 7F

Select channel	Parameter	Set ON
BN, 63, **CH**,	**BN**, 62, 18,	**BN**, 06, 7F

Channel Assignment to Main Mix OFF

NRPN with parameter ID 18

OFF value = 00 to 3F

Select channel	Parameter	Set OFF
BN, 63, **CH**,	**BN**, 62, 18,	**BN**, 06, 3F

DCA Assignment ON

NRPN with parameter ID 40

ON value **DB** for DCA 1 to 16 = 40 to 4F

Select channel	Parameter	Set ON
BN, 63, **CH**,	**BN**, 62, 40,	**BN**, 06, **DB**

DCA Assignment OFF

NRPN with parameter ID 40

OFF value **DA** for DCA 1 to 16 = 00 to 0F

Select channel	Parameter	Set OFF
BN, 63, **CH**,	**BN**, 62, 40,	**BN**, 06, **DA**

Channel Preamp Gain

NRPN with parameter ID 19

This adjusts the Gain of the preamp mapped to the channel

To adjust the Gain of preamps by socket ID use the Pitchbend message below instead

GAIN value **GV** min to max = 00 to 7F = [(Gain – 10) / 55] * 7F

Select channel	Parameter	Set GAIN value
BN, 63, **CH**,	**BN**, 62, 19,	**BN**, 06, **GV**

Socket Preamp Gain

Pitchbend message

This adjusts the Gain of the preamp at a socket

To adjust the Gain of preamps by channel number use the NRPN above message instead

MixRack preamp socket ID **MP** A1 to J8 = 00 to 4F

Surface preamp socket ID **MP** A1 to D8 = 50 to 6F

GAIN value **GV** min to max = 00 to 7F

EN, **MP**, **GV**

Socket Preamp Pad

Sysex message

This turns Pad on or off for the preamp at a socket

MixRack preamp socket ID MP A1 to J8 = 00 to 4F

Surface preamp socket ID MP A1 to D8 = 50 to 6F

To get Pad status from iLive

Send… Sysex Header, 07, MP, F7

Reply… Sysex Header, 08, MP, Pad, F7 where Pad OFF = 00, ON = 7F

To set Pad

Sysex Header, 09, MP, Pad, F7 where Pad OFF = 00 to 3F, ON = 40 to 7F

Socket Preamp 48V

Sysex message

This turns 48V (Phantom Power) on or off for the preamp at a socket

MixRack preamp socket ID MP A1 to J8 = 00 to 4F

Surface preamp socket ID MP A1 to D8 = 50 to 6F

To get 48V status from iLive

Send… Sysex Header, 0A, MP, F7

Reply… Sysex Header, 0B, MP, 48V, F7 where 48V OFF = 00, ON = 7F

To set 48V

Sysex Header, 0C, MP, 48V, F7 where 48V OFF = 00 to 3F, ON = 40 to 7F

Channel Name

Sysex message

This gets or sets the Name with up to 8 characters (up to 5 can be displayed on the iLive strip LCD)

To get Name from iLive

Send… Sysex Header, 01, CH, F7

Reply… Sysex Header, 02, CH, Name, F7 where Name = string of hex ascii characters

To set Name

Sysex Header, 03, CH, Name, F7 where Name = string of hex ascii characters

Channel Colour

Sysex message

This gets or sets the Colour with a choice of off or one of 6 colours

To get Colour from iLive

Send… Sysex Header, 04, CH, F7

Reply… Sysex Header, 05, CH, Col, F7 where Col = 00 to 06 (refer to table)

To set Colour

Sysex Header, 06, CH, Col, F7 where Col = 00 to 06 (refer to table)

Scene Recall

Bank and **Program Change** message

To recall one of the 250 Scenes (2 banks)

Also transmits this message when a Scene is recalled by TouchScreen or another method

For Scene 1 to 128

Scene **SS** 1 to 128 = 00 to 7F

Select bank	Recall Scene
BN, 00, 00,	**CN**, **SS**

For Scene 129 to 250

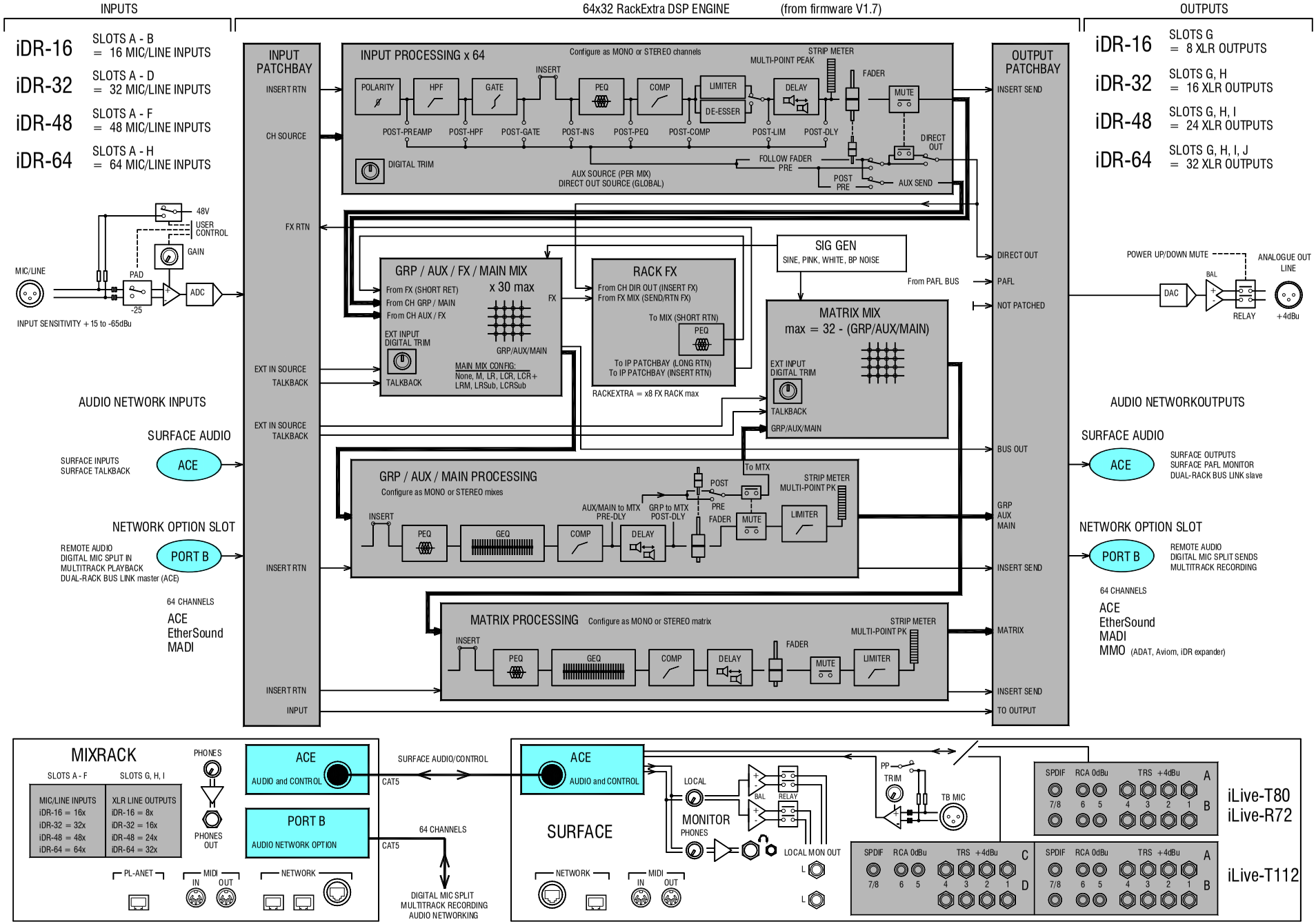
Scene **SS** 129 to 250 = 00 to 78

Select bank	Recall Scene
BN, 00, 01,	**CN**, **SS**

Specification

System	Format	Separate MixRack and Surface with control & audio over a single CAT5 ACE™ cable
	DSP	64x32 RackExtra DSP mix engine located in MixRack
	Audio Network Port A	Local audio to/from Surface - ACE™ up to 120m CAT5 (depending on cable)*
	Audio Network Port B	Network option plug-in cards available - see website for details
	Control Network	TCP/IP Ethernet (links to Surface via Port A ACE™), built-in switch
	PL-Anet	At MixRack for A&H PL Series remote controllers and GPIO
	MIDI	In/Out.Can tunnel between Surface and MixRack via network
	USB	x2: Data transfer, archiving and firmware update, external touchscreen, keyboard
	VGA	For connecting an external monitor to the TouchScreen
	Mains Power	Internal, 100-240V.AC, 47-63Hz, 160W max per unit
Architecture	Input Channels	64x with HPF, Insert, Gate, PEQ, Compressor, Limiter/De-esser, Delay
	Output Mixes	32x with Ext-in, Insert, PEQ, 1/3 oct GEQ, Compressor, Limiter, Delay
	Mix Types	Any combination of Groups, Auxes, Internal FX, Mains, Matrix (mono or stereo)
	Main Mix Types	Mono, LR, LCR, LCRplus, LRSub, LCRSub, LRM, LCRM, None (monitors)
	Mono / Stereo	Channels and Mixes may be configured as mono or stereo
	Patchbays	Virtual patching of: Inputs, Inserts, FX, Mix Ext in, Outputs, Port B audio channel I/O
	Inserts	Inserts assignable on all inputs and mixes, patch to any sockets
	FX Engines	8x internal stereo 'RackExtra' FX racks, each capable of DSP emulations of industry classics
	FX Patching	Inserted or Send/Return loop. Mono or stereo sends, stereo returns
	FX Returns	8x extra 'short' stereo return paths (PEQ) or use IP channels (full processing)
	Max Sources to Mix (Single-Rack)	72x (64 IP channels and 8x stereo internal FX returns)
	Max Sources to Mix (Dual-Rack)	136x (128 IP channels and 8x stereo internal FX returns)
	DCAs	16x can be used as DCA or Mute groups
	Other processing	64x Gates, 96x Compressors, 96x Limiters, 112x PEQ, 32x GEQ
	System Latency	Analogue IN to Analogue OUT (MixRack) <1.6ms, ACE link is 100us (0.1ms) per hop
	ADC	24-bit multi-bit delta sigma, 108 dB dynamic range
	DAC	24-bit multi-bit delta sigma, 117 dB dynamic range
	Frequency Response	20-20kHz +0/-0.5dB
	THD+Noise (analog in to out)	0.0018% (-94dBu) @ +16dBu output (mic pre unity gain)
	Residual Output Noise	-94dBu typical
Audio Inputs and Outputs	XLR Mic/Line Inputs	Recallable, Balanced, -15 to +65dBu, 1dB resolution, 25dB pad, +48V
	Preamp Performance	>4kΩ, +32dBu max input, Noise EIN (150Ω) -127dB
	TRS Jack Line Inputs	+/-24dB trim, >6kΩ, +4dBu nominal, +22dBu max
	RCA Phono Line Inputs	+/-24dB trim, >10kΩ, 0dBu nominal, +18dBu max
	XLR Line Outputs	Balanced, Relay protected, <75Ω, +4dBu nominal, +22dBu max
	TRS Jack Line Outputs	Balanced, Relay protected, <75Ω, +4dBu nominal, +22dBu max
	RCA Phono Line Outputs	Unbalanced, Relay protected, <75Ω, 0dBu nominal, +18dBu max
	RCA Phono Digital	2 ch SPDIF I/O. Input upto 96kHz sampling rate. Output at 48kHz sampling rate
Audio Connections	iDR-16 MixRack	16x XLR mic/line in, 8x XLR line out
	iDR-32 MixRack	32x XLR mic/line in, 16x XLR line out
	iDR-48 MixRack	48x XLR mic/line in, 24x XLR line out
	iDR-64 MixRack	64x XLR mic/line in, 32x XLR line out
	iLive-R72 Surface	Inputs 8x [4xTRS, 2xRCA, 1xSPDIF], Outputs 8x [4xTRS, 2xRCA, 1xSPDIF]
	iLive-T80 Surface	Inputs 8x [4xTRS, 2xRCA, 1xSPDIF], Outputs 8x [4xTRS, 2xRCA, 1xSPDIF]
	iLive-T112 Surface	Inputs 16x [8xTRS, 4xRCA, 2xSPDIF], Outputs 12x [8xTRS, 2xRCA, 1xSPDIF]
	Local Monitor	TRS L and R available at the Surface
	Headphones	MixRack: 1/4" jack. Surface: 1/4" jack and minijack
Control	iLive-R72 Surface	12x faders, 2 banks (8,4), 6 layers = 72 control strips
	iLive-T80 Surface	20x faders, 2 banks (12,8), 4 layers = 80 control strips
	iLive-T112 Surface	28x faders, 3 banks (12,8,8), 4 layers = 112 control strips
	Strip Assign	Assign any strip as Input, FX, Mix master, DCA, engineer's Wedge/IEM
	TouchScreen	800x600 backlit, colour, touch with on-screen keyboard, data encoder
	Processing Strip	Instant access to processing, Illuminated encoders, meters, PFL access
	Soft Keys	8x user assignable
	Faders	100mm motorised, GEQ fader flip mode
	Meters	3 colour, 12 LED meter on every strip, PAFL, proc block and TouchScreen
	Edit Functions	Copy, Paste, Reset of processing and mix parameters
	Monitor Functions	PFL/AFL selectable, PAFL tools, Local/Phones outputs, Dual Wedge/IEM
	Talkback	TB mic with phantom power, assignable to any mix, patching, Latch function
	Additional Surface Functions	Freeze in Layers, Alt View, Screen and LED dimmer
	Other control	MIDI, A&H PL Series remote controllers
	iLive Editor software for laptop	Java-based online/offline editor and live control, connect via TCP/IP network
Memories	Libraries	Name and store processing, FX, channel parameters and PL device settings
	Scenes	250x Store all or selected parameters, editable tree structure, Recall Safes
	Shows	Stores current settings, preferences, all Scenes, Libraries
	User Profiles	Administrator and up to 7 Guest users, Permissions, Password protectable
	USB	Transfer and archive Shows and Libraries, USB Show Scene filter
Weights and Dimensions	iDR-16 MixRack	3U rack, 482mm (19") x 132mm (5.2") x 250mm (10"), 9kg (19.8lbs)
	iDR-32 MixRack	6U rack, 482mm (19") x 265mm (10.4") x 250mm (10"), 12kg (26.4lbs)
	iDR-48 MixRack	8U rack, 482mm (19") x 353mm (14"") x 250mm (10"), 16kg (35.2lbs)
	iDR-64 MixRack	9U rack, 482mm (19") x 397mm (15.6") x 250mm (10"), 17.5kg (38.5lbs)
	iLive-R72 - With Sidetrims	475mm (18.7") x 235mm (9.3") x 540mm (21.2"), 12kg (26.5lbs)

iDR-16, 32, 48, 64 SYSTEM BLOCK DIAGRAM



Limited One Year Manufacturer's Warranty

This product is warranted to be free from defects in materials or workmanship for period of one year from the date of purchase by the original owner.

To ensure a high level of performance and reliability for which this equipment has been designed and manufactured, read this User Guide before operating.

In the event of a failure, notify and return the defective unit to the place of purchase.
If this is not possible then please contact the authorised ALLEN & HEATH distributor or agent in your country as soon as possible for repair under warranty subject to the following conditions.

Conditions Of Warranty

The equipment has been installed and operated in accordance with the instructions in this User Guide.

The equipment has not been subject to misuse either intended or accidental, neglect, or alteration other than as described in the User Guide or Service Manual, or approved by ALLEN & HEATH.

Any necessary adjustment, alteration or repair has been carried out by an authorised ALLEN & HEATH distributor or agent.

This warranty does not cover fader wear and tear.

The defective unit is to be returned carriage prepaid to the place of purchase, an authorised ALLEN & HEATH distributor or agent with proof of purchase. Please discuss this with the distributor or the agent before shipping.

If the unit is to be repaired in a different country to that of its purchase the repair may take longer than normal, whilst the warranty is confirmed and parts are sourced.

Units returned should be packed to avoid transit damage.

In certain territories the terms may vary. Check with your ALLEN & HEATH distributor or agent for any additional warranty which may apply.

If further assistance is required please contact Allen & Heath Ltd.